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# Statistical Information Bulletin for Africa

No/Nº 18

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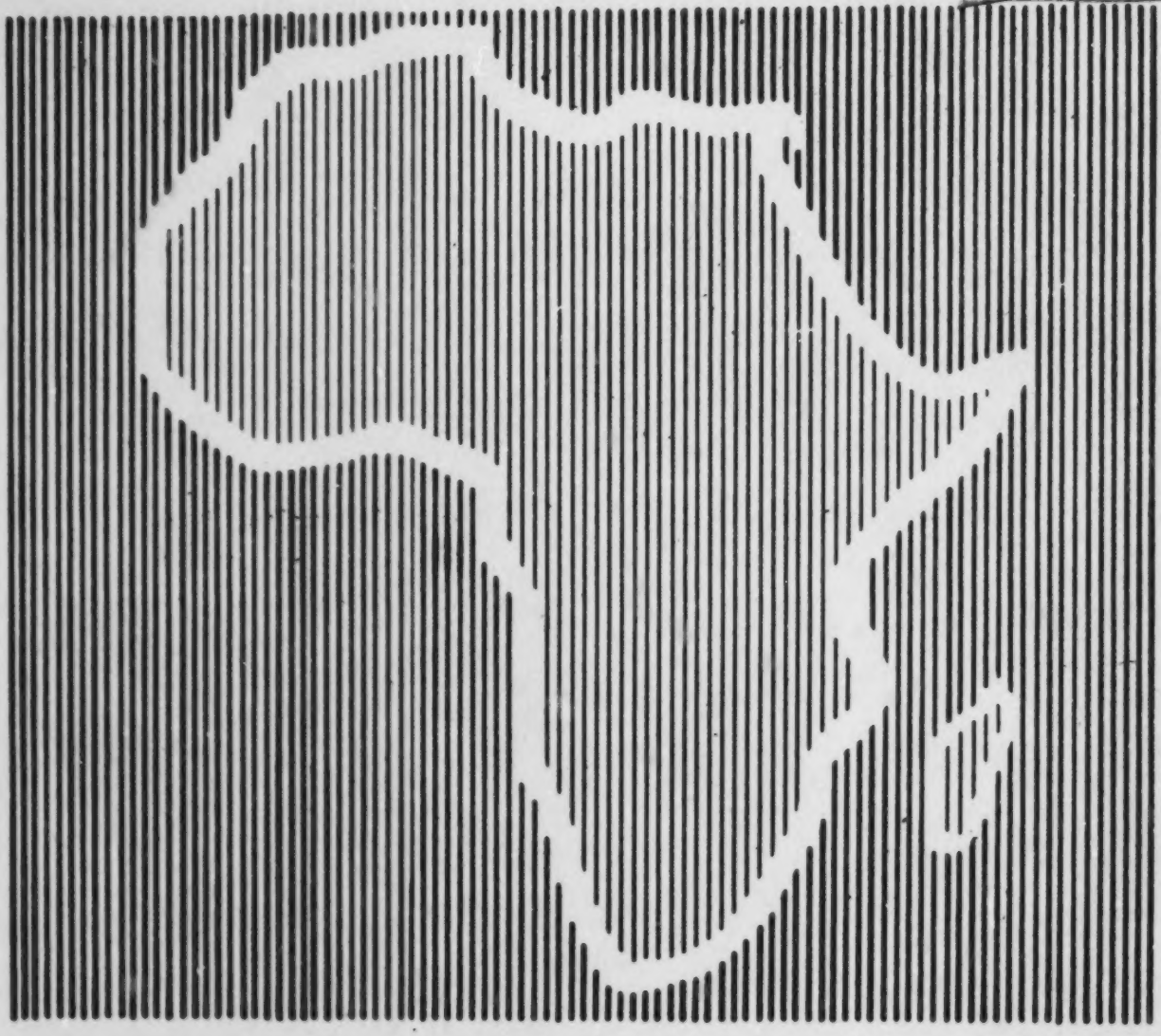

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# Bulletin d'information statistique pour l'Afrique

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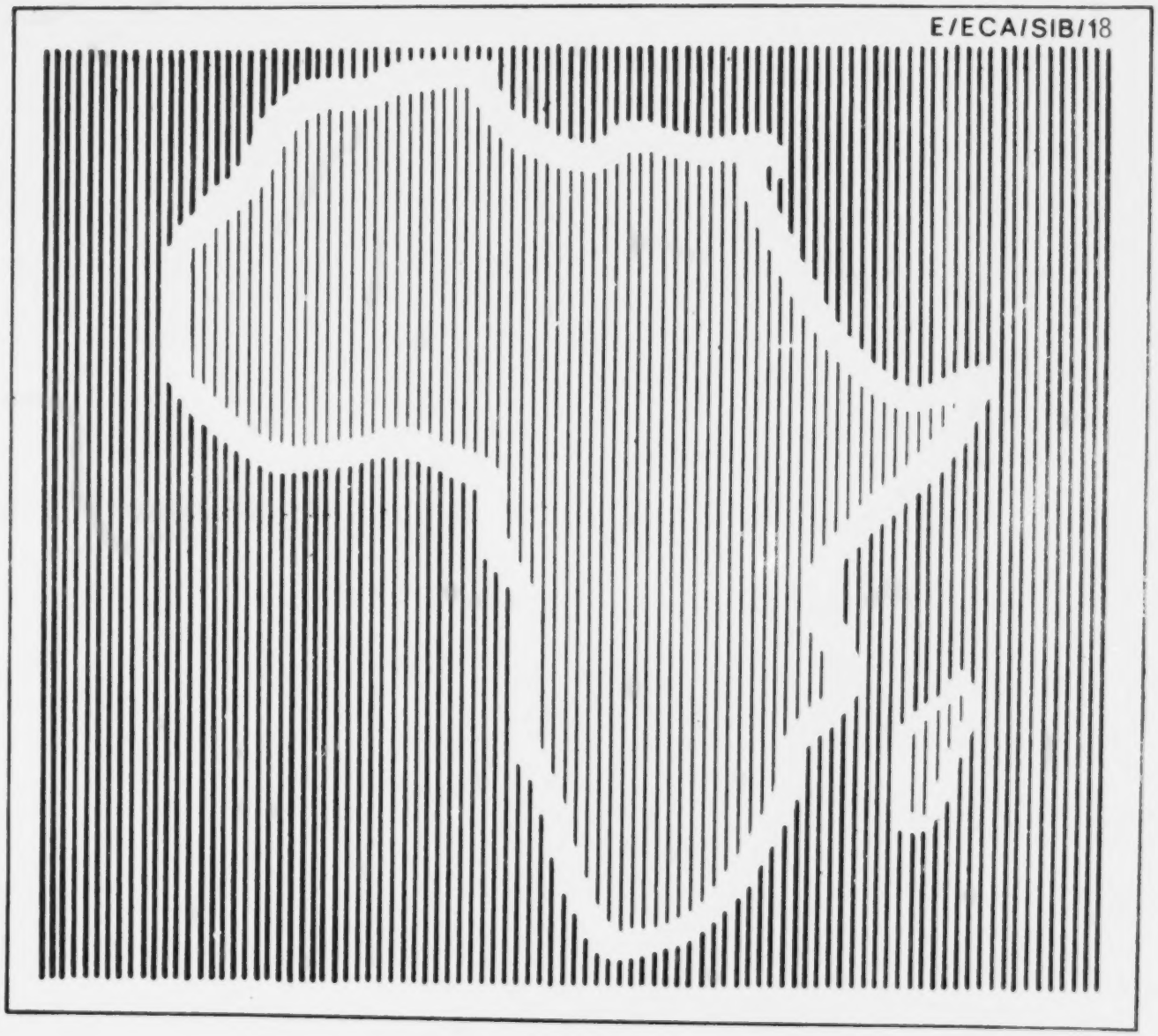


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## EDITORIAL NOTE

The purpose of the Statistical Information Bulletin is to disseminate articles of relevance to the work of national statistical offices. Sometimes it tries to focus mainly on a particular topic and at other times it covers a wide range of subjects. The present issue of the Statistical Information Bulletin (SIB 18) falls into the latter category. It deals with selected aspects of the African Household Survey Capability Programme, issues and problems related to technical assistance, consumer price indices and input/output tables.

It is expected that National Statistical offices will read the articles and send their comments to the Chief of ECA Statistical Division. In addition if such offices have methodological papers related to their work in any branch of official statistics which they would like to be disseminated to other national statistical offices, ECA will be happy to publish such papers in the Statistical Information Bulletin, subject to the the rules and regulations governing the inclusions of such articles in UN publications.

## NOTE DE LA REDACTION

L'objet du Bulletin d'Information Statistique est d'assurer la diffusion d'articles en rapport avec les activités des services nationaux de statistique. Il met tantôt l'accent sur un sujet particulier, tantôt il couvre une gamme étendue de questions. Le présent numéro du Bulletin d'Information Statistique (SIB 18) relève de la dernière catégorie. Il traite de certains aspects du Programme Africain de mise en place de dispositifs d'enquêtes sur les ménages, ainsi que de questions et problèmes relatifs à l'assistance technique, aux indices des prix à la consommation et aux tableaux entrées-sorties.

Nous espérons que les Serviees Nationaux de Statistique liront ces articles et feront parvenir leurs commentaires au Chef de la Division de la Statistique de la CEA. En outre, au cas où ces services souhaiteraient que leurs travaux méthodologiques portant sur un domaine quelconque des statistiques officielles soient diffusés auprès d'autres bureaux nationaux de statistique, la CEA serait heureuse de publier ces travaux dans le Bulletin d'Information Statistique en se conformant toutefois aux statuts et règlements régissant l'inclusion de tels articles dans les publications des Nations Unies.

PROGRESS REPORT ON
THE AFRICAN HOUSEHOLD SURVEY CAPABILITY PROGRAMME (AHSCP)

## INTRODUCTION

This paper updates the document E/ECA/SM/13 presented to the Workshop on household surveys held in Lusaka, Zambia from 1-6 October 1984. It attempts to summarise the progress made up-to-date in implementing the three components of the African Household Survey Capability Programme (AHSCP), namely the country projects, the regional advisory service and training (working groups, seminars and workshops). Information on relevant studies undertaken by the secretariat will also be given. Finally, the prospects for the .u ure of the programme are examined.

## REVIEW OF CCUNTRY PROGRAMMES

Annex I shows the 19 countries which are participating in or are about to join the AHSCP which is the regional variant of the National Household Survey Capability Programme (NHSCP) and the main topics which are covered in their survey programmes. Annex II gives a country by country summary of progress made in implementing individual programmes. It should be pointed out that 17 of the 19 countries listed have prepared project proposals which have been approved by their governments and circulated to interested donors. the remaining two, Ghana has now a draft project proposal which has yet to be endorsed by the Government. The last country, Nigeria, has implemented a survey programme of its own for some time and now wants to operate within the framework of AHSCP.

From the account in Annex II the following countries have fully operational household survey programmes though for some of them funding for all survey rounds is not assured: Benin, Botswana, Cameroon, Ethiopia, Kenya, Lesotho, Malawi, Mali, Morocco, Zambia and Zimbabwe. For the rest, a number are near the stage of actual implementation. Others like Congo, Senegal and Sudan have serious financial problems and without substantial assistance cannot implement their survey programmes in the form in which these are currently formulated.

It seems from consultations with donors that most of them are reluctant to support the funding of local personnel costs. The argument is that these do not involve the use of foreign exchange and thus if the governments accord them the necessary priority they should be able to provide the funds out of their own resources. The donors appear to be willing to consider funding such items as equipment, vehicles and training. However, the present economic climate in the developed countries does not augur well for the actual approval of even these elements in the budgets. The countries of the region will therefore have to evolve a new strategy for the implementation of survey programmes which does not rely too much on external assistance. It has however been stressed by some donors that the problem is that some African Governments do not accord a high enough priority to statistical projects and so even though the country IPF's are under-utilised, the Governments do not earmark any part of the available external resources for projects such as national household survey programmes.

REGIONAL COMPONENT OF THE AHSCP

It may be recalled that at the 8th session of the Conference of African Statisticians held in 1973, delegates in examining the progress made in implementing the African Census programme proposed that the logical sequel to that programme was an African Household Survey Capability Programme. The proposal was considered by the various legislative bodies of ECA and received their final approval in 1978.

Meanwhile, the United Nations Statistical Commission at its 19th session had also strongly endorsed the proposals and had recommended its extension to the other developing regions. Thus a global version of the African Household Survey Capability Programme (AHSCP) was created in the National Household Survey Capability Programme (NHSCP) as a result of the Economic and Social Council resolution 2055 (LXII) of May 1977.

The NHSCP, of which the AHSCP is now a regional component, is a major technical co-operation effort in statistics of the entire United Nations family including the UN regional commissions and other specialized agencies, particularly ILO, FAO and WHO. It is co-sponsored and supported by the UNDP, UNFPA, UNICEF and the World Bank and is intended to help developing countries to establish durable infrastructures for the collection, processing, analysis and dissemination of integrated demographic, social and economic data on households and household members. The national mechanisms expected to be set up in participating countries are country oriented, flexible and cost-effective.

Tables I and II show the number and types of advisory missions undertaken by the AHSCP team from the beginning of the programme up to the end of 1985.

Table 1: Advisory missions undertaken in connexion with AHSCP

Regional Advisory missions undertaken by AHSCP Advisory team by sub-region (1978-1985)

| | 1978-1980 | 1981 | 1982 | 1983 | 1984 | 1985 | Total |
|---|---|---|---|---|---|---|---|
| North Africa | 8 | 3 | 4 | 1 | - | - | 16 |
| West Africa | 19 | 4 | 7 | 3 | 1 | 3 | 33 |
| Central Africa | 4 | 6 | 6 | 3 | 2 | 4 | 25 |
| Eastern and Southern Africa | 10 | 5 | 8 | 4 | 8 | 3 | 38 |
| TOTAL AFRICA | 41 | 18 | 21 | 11 | 11 | 10 | 112 |
| OUTSIDE THE REGION | 6 | 1 | 2 | - | - | - | 9 |
| GRAND TOTAL | 47 | 19 | 23 | 11 | 11 | 10 | 121 |

Table 2: Missions undertaken by the AHSCP Regional Advisory team by purpose and year (1978-1985)

| Purpose | 1978-80 | 1981 | 1982 | 1983 | 1984 | 1985 | Total |
|---|---|---|---|---|---|---|---|
| Preliminary investigation | 1 | - | 1 | - | - | - | 2 |
| Project proposal formulation | 10 | 8 | 5 | - | - | 2 | 25 |
| Advisory mission | 20 | 8 | 13 | 11 | 7 | 5 | 64 |
| Assistance in preparing specific project docs. | 7 | 2 | 1 | - | - | - | 10 |
| Evaluation | 3 | - | 1 | - | 2 | 2 | 8 |
| Miscellaneous (Technical meetings and visits to donors, etc.) | 6 | 1 | 2 | - | 2 | 1 | 12 |
| GRAND TOTAL | 47 | 19 | 23 | 11 | 11 | 10 | 121 |

The AHSCP regional programme had gone through a difficult period since 1982. By mid-1982 there was considerable uncertainty surrounding the funding of the regional component of the AHSCP in 1983 and beyond. As a result, the two household survey specialists under the UNDP funded component left the programme. Following contacts between the Co-ordinator of the National Household Survey Capability Programme in New York and the Assistant Administrator and Regional Director for Africa of UNDP, the Statistics Division of ECA was informed that $200 000 had been earmarked for 1984 and a similar amount for each of the years 1985 and 1986 had also been tentatively set aside on the condition that ECA made satisfactory arrangements to continue the project in 1983. ECA subsequently made arrangements for the continuation of the regional component of the AHSCP in 1983. However, the financial crisis facing UNDP did not allow it even to tentatively earmark any amount for 1985 and 1986 as earlier promised. However, with UNDPs approval, ECA was able to allocate funds from other UNDP funded, ECA-executed projects to support the regional component of AHSCP for 1985 and 1986.

At the meeting of the Programme Review Committee of the National Household Survey Capability Programme (NHSCP) held on 23 March 1984 and attended by representatives of the United Nations, UNDP, UNICEF, UNFPA and the World Bank which are the major sponsors and supporters of NHSCP, it was indicated that the present complement of advisers working under the NHSCP was inadequate. The case was made for two more advisers for the next four years. Unfortunately, it was not possible to increase the UNDP-funded staff to four.

However, ILO continues to provide one adviser and the Government of the Federal Republic of Germany has re-confirmed its intention to provide one adviser in data processing.

The future of the regional component of the AHSCP is still uncertain after 1986. However, discussions are still going on with UNDP about the project's future. A recent tripartite review of the project recommended the following:

There was substantial demand for the project's advisory services to African countries who are keen to establish their own household survey capabilities.

There was a proven need for continued UNDP assistance to the project beyond the current termination date of December 1985. However, since there was no guarantee of any funds beyond the current Cycle, it was more realistic to work on the basis of an extension (estimated to cost about $2000 000) to the end of 1986.

Since the UNDP Regional Programme for the current Cycle was already overcommitted by $2.5 million, it was not possible for UNDP to allocate extra funds for the extension of this project. The practical solution to this funding problem was for ECA to identify possible savings from 1985 and 1986 budgets of approved projects as well as mutually agreed pipeline proposals to fund the extension of the project.

Following the submission of the relevant proposals by ECA, UNDP Headquarters has approved the extension of the regional component of the AHSCP until the end of 1986.

As regards the Fourth Cycle Regional Programme for Africa (1987-1991), negotiations have started for its preparation. It is hoped that the regional component of AHSCP would be included as part of a large project within the selected areas of concentration.

TRAINING

In connexion with the training programmes under the AHSCP a workshop on household surveys was held at the Commonwealth Youth Centre, Lusaka, Zambia, from 1-6 October 1984. The meeting was jointly sponsored by the Commonwealth Fund for Technical Co-operation (CFTC) and United Nations Economic Commission for Africa (ECA) in collaboration with the Government of Zambia. The following countries participated in the workshop: Botswana, Gambia, Ghana, Kenya, Lesotho, Malawi, Mauritius, Nigeria, Sierra Leone, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

The workshop dealt inter alia with quality and reliability of household survey data, household data applications and analysis, guidelines in report writing and dissemination of data, data base development, the Kenya National Sample Survey and Evaluation Programme (NASSEP: A case study)and the future work programme of the regional component.

In the discussions on data applications and analysis, a document prepared by Prof. Irma Adelman of the University of California at Berkeley was discussed. The document dealt with the use of household budget surveys for rural development policy formulation (policies for the rural sector, empirircal models of the subsistence sector, policy questions which can be addressed by means of the farm household model), the use of the urban household budget data for

development policy (the urban household model, econometric estimation, policy uses of urban household budget surveys) and the use of household budget surveys in system-wide planning (the Social Accounting Matrix (SAM), policy uses of SAM, the computable general equilibrium model (CGE), policy uses of CGE models).

Another paper by Mr. Wasonga of Kenya Central Bureau of Statistics entitled "Application of household Survey Data to Monitoring Nutrition Status-Kenya", was presented to the meeting. Mr. Wasonga explained how household data from the Kenya Central Bureau of Statistics are used for monitoring nutritional status of the population.

The third paper discussed under the same agenda item considered "Measuring the Progress of Primary Health Care - Health Survey Experience of Africa. The document drew attention to the significant role of household surveys in providing essential health information and in meeting especially the data required by countries for monitoring and evaluation of the programmes of Primary Health Care and Health for All by the year 2000 sponsored by the World Health Organization and the UNICEF's new world-wide programme of Child Survival and Development Revolution. These programmes as well as other development activities in the field of health and nutrition provided the impetus to the countries to plan systematic collection of health information and develop the statistical infrastructure needed for the purpose.

Another important item discussed was Data Base Development. During the discussions the following conclusions were reached:

- Data from household surveys have to be combined with data from other sources particularly from the modern sector - to be of use in national planning. The household data base has to be part of a larger statistical data base.

- The technical level of ambition in the design has to be adapted to what is feasible in a certain environment. The "normal" processing to produce the desired reports has to be given priority.

- The conceptual framework for the surveys combined has to be decided upon before the surveys are launched if any successful data base design is to be accomplished.

- By the use of micro-computers in survey data processing some of the problems encountered presently might be reduced.

- It might take considerable time to train the users of a data base and orient them to the new situation where they should turn to the statistical office and require certain information not available in the published reports.

- Different experiences were expressed concerning the possibility to link information at the household level. Some delegates expressed doubts as to whether such linkage would be possible.

- The Workshop noted that the establishment of Data Base Systems would require the hardware, software and the necessary manpower which is lacking at the moment in most countries of the region. It was therefore suggested that countries should give more priority to the building up of the computing capability needed for generating tables in the short run.

In considering the future work programme of the regional component of AHSCP, the workshop agreed to recommend the following elements for approval by the Joint Conference of African Planners, Statisticians and Demographers.

a. Advisory services to member States, on request, in the following areas:

   i. Preparation of survey programme documents for countries requiring technical and financial assistance in the context of the global National Household Survey Capability Programme (NHSCP) (two additional countries per year 1984-1989);

   ii. Establishment of active survey operations (two per year 1984-1989);

   iii. Training and development of staff resources needed in establishing effective survey programmes (four per year 1984-1989);

   iv. Technical review of household survey activities (six per year 1984-1989).

b. Development of methodology for the collection, processing, analysis and utilization of integrated demographic, social and economic data already begun will be continued, taking into account technical studies being undertaken by the UN Statistical Office and the UN specialized agencies. Specifically the following will be done:

   i. Prepartion of guidelines for the measurement of employment, under employment and unemployment after the current testing of technical plans for labour force surveys in a number of African countries including Botswana and Malawi is completed;

   ii. Further development of technical plans for income, consumption and expenditure surveys, taking into account the special conditions of Africa and the need to make such surveys cost effective;

   iii. Examination of technical problems associated with agricultural surveys;

   iv. Further development of guidelines on report writing and dissemination of data after critical examination of reports produced under the AHSCP;

   vi. Continued development of illustrative questionnaires, adaptation of concepts, definitions and classifications and preparation relevant illustrative tabulation programmes;

   vii Preparation of further guidelines on household data applications and analysis;

   viii. Preparation of guidelines on data processing procedures for the support of survey programmes, including the formulation of appropriate guidelines for data base activities.

c. In collaboration with the Central Co-ordinating Unit (CCU) of the UN Statistical Office and the UN specialized agencies, the regional team will assist in the mobilization of technical and financial resources for the implementation of national programmes.

d. Training workshops/seminars on organization, content and methodology of household surveys (1987,1989).

e. Training of survey personnel of all levels in collaboration with the Statistical Training Programme for Africa (STPA). This will involve the organization of training workshops at STPA and other centres and will be done in collaboration with the UN Statistical Office, the UN specialized agencies, the associate centres of STPA and multilateral as well as bilateral donors. The training activities will cover inclusion of survey techniques in training at under-under-graduate and similar levels; in-service training at national level a level and assistance in the organization of exchange visits.

As a result of the success of this Workshop two more workshops are scheduled for 1986. The second will deal mainly with the problems of health surveys. Tentative dates for the two meetings are as follows:

Working Group on Household Surveys for the French-speaking African countries - 20-24 October 1986.

Workshop on Training of Statisticians and Health Managers in Health Surveys - 10-28 November 1986.

Both meetings are scheduled to be held in Addis Ababa.

CONCLUSION

In the previous sections and in the two annexes to this paper, an attempt has been made to review the progress achieved in the region by the various components of the AHSCP. The performance in each area has not been as high as those who developed the programme had hoped for. The main constraint seems to be funding from external sources. It seems clear that if Africa is to achieve substantial progress in this field, it will have to rely on its own resources. In this context, African Governments are urged to provide the necessary material and human resources to enable the country programmes to be implemented successfully. Since most donors have indicated their unwillingness to provide funds for local personnel costs, African countries will be well advised to include at least that component of survey costs in their national budgets.

The use of national resources to support local personnel costs in the initial stages may in certain cases lead to the modification of the survey programme as originally formulated. It is however better to implement a modified survey programme which will generate most of the basic data required for planning and other purposes than to retain an over-ambitious programme whose funding prospects are very dim. It is clear that some donors may be encouraged to assist in financing parts of the foreign-exchange components of these national projects if they are convinced that the national Government itself is according it high priority by allocating substantial resources to it. Mere affirmations of high priority not backed by any concrete action will not enlist such support.

Donor support for the working groups and training workshops is also necessary to allow for a fruitful exchange of ideas and experiences and to introduce survey personnel to improved methodologies in the household survey field. The view of some donors that working group meetings are merely of an administrative nature and therefore not worth funding is based on erroneous information. Reports of the previous working group meetings give a good account of the proceedings of such meetings and show that the technical aspects of the deliberations are important and relevant to the implementation of survey programmes within the African region.

In conclusion, a concerted action by African Governments, inter-governmental organizations and donors is essential to assure the continuity of the household survey programme in a form which would support African development.

Annex I

Provisional survey topics of country programmes

| | Income & expenditure | Agriculture & food production | Household Enterprises | Employment & Labour force | Environment & energy | Demographic | Migration | Health | Food consumption & nutrition | Education | Housing and water | Social conditions & perspectives |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NORTH AFRICA | | | | | | | | | | | | |
| Egypt | X | X | | X | | | | | | | | X |
| Morocco | X | | X | X | | X | | | X | | | |
| Sudan | X | | | X | | X | X | | | | | X |
| WEST AFRICA | | | | | | | | | | | | |
| Benin | X | | | X | X | X | X | X | | X | | |
| Ghana | X | * | X | X | X | X | X | X | X | X | X | X |
| Mali | X | X | | | | X | | | | | | |
| Nigeria ** | | | | | | | | | | | | |
| Senegal | X | X | | | | X | X | X | | | | |
| CENTRAL AFRICA | | | | | | | | | | | | |
| Cameroon | X | | | X | X | X | | X | | | X | X |
| Congo | X | | | X | | X | | X | | X | | |
| Rwanda | X | X | X | X | | X | X | X | X | | X | |
| EAST AND SOUTHERN AFRICA | | | | | | | | | | | | |
| Botswana | X | | X | X | | X | X | | X | | | X |
| Ethiopia | X | X | X | X | | X | | X | X | X | X | X |
| Kenya | X | X | | X | | X | X | X | X | | | X |
| Lesotho | X | | | X | X | | X | X | X | X | X | |
| Malawi | | X | | X | | X | | | | | | X |
| Tanzania, Un. Republic of | X | X | X | X | | X | X | X | X | X | | |
| Zambia | | X | | X | | X | | | | | | X |
| Zimbabwe | X | X | X | X | X | X | X | X | X | X | X | X |

* Annual agricultural surveys are undertaken by the Ministry of Agriculture

** Details of next survey programme will be determined in May, 1986

ANNEX II

ACCOUNT OF DEVELOPMENTS IN COUNTRY HOUSEHOLD SURVEY PROGRAMMES

The following is a summary of developments in countries which have enrolled in the AHSCP since the last report was submitted to the Joint Conference.

Benin

The household survey programme which was drawn up with the assistance of ECA, the UN Statistical Office and FAO is as follows:

National demographic survey with repeated rounds, including a "fertility" module in the first round, a "rural environment" module in the second round, and an "employment" module in the third round (1981-83)
Survey of income, expenditure and consumption (1983-84)
Employment and migration survey (1985-86)
Health and education survey (1986)

The Government of Benin is receiving assistance from France and the EEC on income, consumption and expenditure survey. The size of the sample has already been determined: 2,300 households of which 1000 will be covered in the part of the survey concerning consumption. FAO has been requested to provid. assistance in the food consumption and nutritional component of the survey.

It should be noted that up to 30 September, 1985, the income, consumption and expenditure survey was still in the preparation phase. The sample design and the selection of the primary sampling units (PSU's) and secondary sampling units (SSU's) has been completed. The calendar for field operations has been finalised and the field work is expected to start from 1 December, 1985.

The Benin Government has indicated the desirability of conducting an agricultural survey in 1987. It is not clear whether this is a replacement for the agricultural census originally scheduled for 1986-1988 or the beginning of an annual series of agricultural surveys which one every ten years will become the agricultural census.

The original schedule of surveys mentioned in paragraph 2 above has been modified as follows:

Income, consumption and expenditure survey (1985-86)
Agricultural census (1986-88)

There is a data processing expert in post as from November 1983 and the chief technical adviser has assumed duty.

Botswana

The original survey programme was as follows:

Income, consumption and expenditure incorporating nutrition (1982)
Labour force and migration (1983-84)
Disposal of household production (1984-85)
Fertility, mortality and family planning, including questions on social perspectives (Demographic Survey) (1985)

Due to financial constraints the programme was modified and implementation started in 1983. The Government of Botswana has decided to meet all the local costs of the programme during the period 1983-85.

The revised programme is as follows:

Demographic and socio-economic indicators for the evaluation of primary health care (PHC) in Botswana (1983-84)
Labour force and migration studies (1984-85)
Income, consumption and expenditure survey (1985-86)

The first survey is over and the second was launched from 1 May 1984.

Camercon

The following was the revised survey programme:

- income, expenditure, etc (1983-84)
- employment (1984/85)
- population census (1986)
- health and environment, demography and housing (1987)
- social perspectives and rural development (1988)

After the initial delays in survey preparation the income and expenditure survey started in September 1983.

The field work was completed a year later. As of December 31, 1985, a draft of the Summary Report had been completed. Two chapters of the General Report which is in course of preparation had been finished. The General Report is expected to be completed by September, 1986. Meanwhile detailed tables concerning the structure of food consumption and the standard errors of estimates for the most important tables are being compiled. Assistance has been provided by the ECA Household Specialist in these activities. In addition, he is advising the Cameroon Statistical Office on the analysis of the data as well as indicating the areas of their application.

A population census is being planned for 1987. UNFPA is giving some assistance to the Camercon Government in these activities. This has led to changes in the timing of some of the activities in the survey programme. According to the new plan, a post-census survey with a demographic module will be carried out soon after the population census in 1987. This will be followed in 1988 by the employment survey with a module dealing with the conditions of women.

External aid to Cameroon in respect of its household survey programme has come mainly from the Government of the Federal Republic of Germany. This assistance has been in the form of some equipment and vehicles. The main cost of the summary programme has been by the Cameroon Government itself.

Congo, People's Republic of

The survey programme as later revised was as follows:

- employment survey (1981-83)
- agricultural survey (1982-84)
- health and education survey (1982-84)
- post-census enumeration survey (1984-85)
- household income, expenditure and consumption survey (1984-86)
- national survey on infant mortality (1985-88)

Due to lack of external financial support the survey programme has not been implemented. However the Director of Statistics is planning to scale down the size and scope of the surveys to fit the type of budget which the Congo Government can provide. There is no information at this end on whether these modifications have been made.

The delay in implementing the survey programme has also meant that no survey can now take placee until the end of 1986 at the earliest.

The secretariat understands that EEC is prepared to support the income and expenditure and other parts of the Congo household survey programme in collaboration with France provided the project is included in Congo's country programme. No information on whether this has been done is available to ECA.

The ECA Household Surveys Specialist is planning, subject to the concurrence of the Government of the People's Republic of Congo, a mission to the Congo during the first half of 1986 to discuss the implementation of the survey programme with the appropriate Government authorities.

Egypt, Arab Republic of

The following are the main elements of the household survey programme prepared by the Central Agency for Public Mobilization and Statistics (CAPMAS):

- labour force survey with additional modules on social and economic topics (1984)
- labour force survey with selected additional social and economic topics; income-expenditure survey with a farm household module (1985)
- labour force survey with additional modules on social and economic topics (1986)
- population census (November 1986)
- labour force survey; income-expenditure survey with additional modules (1987)

It is obvious from the above outline of the programme that the Arab Republic of Egypt intends to develop its programme of household surveys around a core survey which is the annual labour force survey. The additional socio-economic modules to be canvassed include: housing, health status, infant mortality, morbidity, due of social services, education and literacy, internal migration, domestic energy consumption and means of transportation to work.

The survey programme has not yet been implemented due to lack of external assistance.

Ethiopia

The National Integrated Household Survey Programme (NIHSCP) for 1981-86 as approved by the Central Planning Supreme Council of Ethiopia comprises the following survey rounds:

Rural areas

- crop production and livestock survey, baseline demographic survey (September 1980 - January 1981)
- income, consumption and expenditure survey, summary labour force survey;:objective crop forecast survey, crop production and livestock survey, socio-demographic survey (demography, health) (March 1981-February 1982)
- detailed labour force survey, objective crop forecast survey, crop production and livestock survey, socio-demographic survey (physical disability), nutrition survey (May 1982 - April 1983)
- objective crop forecast survey, non-agricultural enterprise survey, crop production and livestock survey, socio-demographic survey (household amenities, access to and use of social services) (June 1983 - January 1984)
- large scale agricultural survey, objective crop forecast survey; socio-demographic survey (literacy and education) (March 1984- December 1984)
- summary labour force survey, objective crop forecast survey, crop production and livestock survey, nutrition survey, socio-demographic survey (demography, position of women and children) (January 1985 - February 1986)

Urban areas

- income, consumption and expenditure survey, summary labour force survey, socio-demographic survey (demography, health) (July 1981 - June 1982)
- detailed labour force survey, nutrition survey, socio-demographic survey (physical disability) (August 1982 - July 1983)
- household and small scale enterprise survey, socio-demographic survey (household amenities, access to and use of social services) (September 1983 - January 1984)
- income consumption and expenditure survey, summary labour force survey, nutrition survey, socio-demographic survey (demography and position of women and children); socio-demographic survey (literacy and education) (January 1985 - February 1986)

In order to implement this NIHSCP quickly the Central Statistical Office decided to accord priority to its rural component, the Rural Integrated Household Survey Capability Programme (RIHSCP). The elements of the latter programme are as shown below:

- current agricultural survey (1980-81 and 1981-82)
- crop production forecasting survey (June - July 1981)
- demographic survey (January 1981 and January 1982)
- household income, consumption and expenditure survey (May 1981 - May 1982)

- labour force survey (May 1981 - May 1982)
- price data collection (May 1981 - May 1982)
- collection of data on community level variables (June - August 1981)
- agricultural survey (1982 - 1983)
  - the health interview survey
  - the nutrition survey

The RIHSCP has been implemented as part of the Integrated Food and Agriculture Statistics Programme with support from FAO/UNDP. UNICEF is also providing financial and technical assistance. The Ethiopian Central Statistical Office has published a methodological report on the RIHSCP covering the period 1980-83.

One of the main initial bottlenecks in programme implementation was data processing. This has now largely been overcome with a new computer and a number of software packages such as SPSS, COXTALLY, MULVAN, UNEDIT and XTALLY. It is expected that the outputs of the survey programme will now be published on a regular and timely basis.

FAO and UNICEF provided a number of experts in the field of agricultural statistics, sampling, data processing and health surveys.

The implementation of the urban part of the survey programme has been postponed indefinitely due to Ethiopia's current food and economic crises and the lack of external sponsors:

Ghana

A mission comprising representatives of the United Nations Statistical Office, Food and Agriculture Organization and Economic Commission for Africa visited Ghana in November 1985 to assist the Central Bureau of Statistics to prepare a project proposal within the framework of the National Household Survey Capability Programme (NHSCP). The tentative programme of surveys is as follows:

1986-1987: Household income, expenditure and consumption (including food and energy)
1987-1988: Fertility, mortality, maternal and child health, disabilities (physical and mental).
1988-1989: Labour force, literacy, education and migration, with supplementary modules on women, children, youth and the aged.
1989-1990: Household economic activities - agricultural and non-agricultural (including inputs and outputs, disposal of output and stocks, fixed assets and loans taken).
1990-1991: Housing and environment; access to and utilization of social services and amenities (including community level facilities).

A mission will visit Ghana as soon as the tentative plan is approved by Government to advise on the implementation of the first round of the survey programme.

Kenya

The details of the survey programme known as the National Sample Survey and Evaluation Programme (NASSEP) for Kenya are listed below:

| Rural | Urban |
|---|---|
| Post-enumeration survey of 1979 population census. Also literacy survey and handicapped survey (1980-81) | Post-enumeration survey of 1979 population census. |
| Budget (income, consumption and expenditure) and agricultural production survey (1981-82) | Budget survey, literacy survey, handicapped survey (1981-82) |
| Survey of health, nutrition and social indicators (1982-83) | Survey of health, nutrition and social indicators (1982-83) |
| Agricultural production survey and demographic survey (including fertility, mortality and migration) (1983-84) | Demographic survey (including fertility, mortality and migration (1983-84) |
| Employment survey (1984-85) | Employment survey (1984-85) |

Due to financial constraints the programme has been implemented on a modified scale. According to information available to ECA, very few outputs from 1980-1984 have so far been delivered.

The programme has received some assistance from NORAD AND ODA.

In preparation for the 1985-89 NASSEP II Survey Programme, the Kenya Central Bureau of Statistics has prepared a number of review papers which will form the basis of a review meeting later in 1985. It is expected that final decisions on sample design, content of survey programme etc. will be taken either at, or soon after, this meeting.

A joint Commonwealth Secretariat/ECA mission visited Kenya in October 1984 to review NASSEP I. Another joint mission is scheduled for April/May, 1986 to assess progress in delivering the final outputs of NASSEP I and to discuss the components of NASSEP II. It may be recalled that the UN Statistical Office in 1984 fielded a consultancy mission to review the sampling design for the rural part of NASSEP II. The design of the urban part of NASSEP II, has not yet been reviewed by an external expert.

Lesotho

The survey programme as envisaged is as follows:

- Round 1: income, expenditure and savings (1983-84)
- Round 2: labour force and migration (1984-85)
- Round 3: literacy, health and nutrition (1985-86)
- Round 4: housing, sanitation, environment and energy (1986-87)
- Round 5: household budget and food consumption (1987-88)

Annual agricultural surveys will be a constant element in each round.

DANIDA, the Commonwealth Fund for Technical Co-operation (CFTC) and UNDP have all expressed interest in financing parts of the external assistance requirements of the survey programme. Negotiations in this regard are going on;in the meantime the Lesotho Statistical Office has prepared plans for an income and expenditure survey in urban areas with the assistance of ECA and UNSO.

No up to date information on programme implementation is available to ECA.

Malawi

The Malawi Household Survey programme consists of the following:

- National Sample Survey of Agriculture (NSSA) (1980/81)
- Annual Survey of Agriculture (ASA)
- Demographic survey (1982)
- Labour force survey (1983)
- Survey of the handicapped (1983)
- Family Formation Survey (1984)
-

The survey programme is being implemented with the financial support of the World Bank and UNDP.

It may be recalled that the World Bank is financing the National Rural Development Programme (NRDP III). Some elements of the survey programmes listed above constitute essential parts of the survey programme identified as relevant within the context of NRDP III. The NSSA was undertaken in 1980/81. ASA for 1985 has been completed and the next round is being planned. A demographic survey was carried out in November 1982. A labour force survey and a survey of the handicapped were carried out during October-November, 1983. A family formation survey was conducted as planned in 1984.

Mali

The main elements in the Mali National Household Survey Capability Programme are as follows:

- Annual survey of Agriculture (ASA) May (starting 1983) - January (of following year)
- Agriculture census (will replace ((May 1984)
- ASA for that year)
- Multiround demographic survey (1984-85)
- Income, expenditure and consumption survey (1985-86)

Due to the financial crisis in UNDP, the amount of money originally promised for the start of the survey programme was drastically reduced and funds were provided only for preparatory activities in 1982-83. A consultant, Mr. Karol Krotki of Statistics Canada, was appointed during June - September, 1983 to help the Direction National de la Statistique et de l'informatique (DNSI) with sampling and survey methodology. Preparatory work on the annual survey of agriculture was then started. This phase, which deals with crop areas and production, cattle and agricultural equipment and inputs and

which also will be used to obtain information on births, deaths, size and structure of the farm population, was started in 1983. An agricultural census was planned to be initiated from mid-1984, but its status is unknown.

Morocco

The survey programme consists of the following rounds:

- annual employment survey (1984-88)
- household income, expenditure and consumption survey, nutrition status survey (1983)
- multiround demographic survey (1984-86)
- survey of handicrafts (1984)
- survey of basic needs (1985)

The income, expenditure and consumption survey covers 12 000 households.

UNICEF's commitment to the funding of part of the project has been confirmed. Assistance from USAID, UNFPA, UNDP and UNICEF has also been received.

Nigeria

Nigeria has a long history of survey taking. It has a large field force which is represented in all 19 States making up the Federation. The sample is a national size and the subjects include most of those recommended by both the UN Statistical Office and the ECA Statistics Division for inclusion in national surveys.

It is not now formally operating within the framework of the National Household survey Capability Programme (NHSCP) but has invited a joint UNSO FAO/ECA mission to visit Nigeria within the first half of this year to assist the Federal Office of Statistics to prepare a comprehensive project document.

Rwanda

The original household survey programme comprises the following:

- demographic survey with a module on fertility and mortality and a module on the rural migration to Kigali and Butare (1980-81)
- household income, consumption and expenditure survey with a nutrition module (1981-82)
- agricultural survey, including livestock (1982-83)
- migration survey (1983-84)
- labour force survey with a module on use of work time in rural areas (1984-85)
- survey of the informal sector (1985-86)
- health survey (1986-87)
- population and housing census (1988-89)

Delays in implementing the survey programme have arisen, due to lack of the essential external support which had been assumed when the project proposals were formulated. However, the first element in the survey

programme has been modified to retain only the fertility survey element. USAID provided assistance for the conduct of the survey.

The household income, consumption and expenditure survey with a nutrition module was delayed for about 2-3 years. The survey has been completed for rural areas and tables generated from the survey are expected to be ready by 1 January 1986.

The field work of the survey in urban areas is in its final stages and the tables are not expected before 1987.

It should be noted that the Ministry of Health is anxious to organize an ad hoc health survey outside the framework of the national household survey programme. The survey will obtain the usual data on the health of the population and in addition will cover health expenditures.

Senegal

The household survey programme comprises the following rounds:

- household income, expenditure and consumption survey in urban areas (1982)
- migration survey, agricultural census
- fertility survey (1984)
- household income, expenditure and consumption survey in rural areas (1984-85)
- mortality and morbidity survey (1985-86)

Due to the financial crisis facing the country and the failure to attract donors, no action has so far been taken. The Director of the BCR has indicated that the survey project cannot be implemented at this time without a large infusion of external assistance.

Sudan

The survey programme is as follows:

- demographic survey (1983-84)
- labour force and migration survey (1984-86)
- income, consumption and expenditure survey (1986-88)
- social survey (1987-88)

The implementation of the survey programme has been delayed. It was tentatively arranged to start after the population census. The census enumeration started in February 1983 and preliminary results are now available. The next household survey therefore was expected to be undertaken in 1984. Unfortunately the food and economic crises which affected the country have made it impossible to start the programme until. There is also the problem of the large-scale exodus of trained personnel from the Statistical Office.

United Republic of Tanzania

The different rounds of the survey programme are as listed below:

- basic agricultural and demographic survey (1983)
- large scale agricultural survey (1983-84)
- labour force, migration and annual agricultural surveys (1985)
- health, education, literacy, nutrition and other social surveys and annual agricultural survey (1986)
- income, consumption and expenditure survey and annual agricultural survey (1986-87)
- household enterprise survey and annual agricultural survey (1987-88)

It may be noted in this context that the Central Bureau of Statistics (CBS) of Tanzania had formulated a 10 year development plan. It was considered that the NHSCP project proposal should be reformulated on a more realistic basis and co-ordinated with the long-term work plan prepared by the CBS. It may also be recalled that a SIDA project formulation mission prepared a report in June 1982. This report also needs to be taken into account in revising the project proposal.

SIDA is currently assisting the Government of the United Republic of Tanzania with a Statistical Development project. During 1986, ECA will discuss with SIDA the reformulation of the of the original survey programme. The Government has already indicated that its priority is an annual Agricultural Survey, as implied in the original survey programme. It therefore remains to ascertain whether the other priorities are also maintained.

Zambia

The proposed household survey programme consists of the following:

- integrated agricultural survey (1983-84)
- integrated agricultural survey and labour force survey with modules on social variables and conditions (1984-85)
- integrated agricultural survey and multiround demographic survey with modules on social statistics (1985-86)
- integrated agricultural survey and multiround demographic survey with modules on social variables such as those relating to health and nutrition (1986-87)
- integrated agricultural survey and income, consumption and expenditure survey (1987-88)

The implementation of the project started with the recruitment of an FAO Adviser on agricultural statistics. An annual agricultural survey has been conducted and a labour force survey was scheduled to be conducted in 1985. The new ILO Adviser on household surveys is expected to visit Zambia this year to advise on various aspects of this survey.

Zimbabwe

The household survey programme comprises the following:

- pilot demographic and agricultural survey, demographic survey (PES as a second phase sample) and survey on household economic activities (1982-83)
- Annual agricultural and demographic survey (AAD survey) (1982-84)
- income, consumption and expenditure survey (with a module on energy consumption) (1983-84)
- AAD survey, labour force, time budget and migration survey (1984-85)
- AAD survey, survey on household enterprises (1985-86)
- AAD survey, survey on selected social indicators such as housing, housing conditions, education, sanitation and water (1986-87)
- AAD survey, survey on selected social indicators such as transport and communications, health, nutrition, community development and women's participation (1987-88)

A project document was formulated in 1982. A household survey specialist has been appointed since 1982 from UNDP funds. Pilot surveys to test the sample design for household surveys were carried out from February to June 1983 with financial assistance provided by UNICEF. Several questionnaires, e.g. household economic activities, demographic and socio-economic data, community level variables income, consumption and expenditure, agriculture and livestock, energy, etc. have also been prepared. A seminar was held in Harare from 11 to 14 July, 1983 to review the results and experience of the pilot surveys and to discuss related matters for implementing the household survey programme. Financial assistance for the seminar was provided by SIDA.

The first three surveys in the programme have been conducted, though not at the dates indicated. In addition, there were significant reformulations of the content of the surveys. A nutrition survey using anthropometric measurement has also been conducted.

A labour force survey is planned for 1986. Two advisers one from the UN Statistical Adviser and the other from Australia (then attached to the Botswana Statistical Office), have visited Zimbabwe to advise on the project.

# RAPPORT INTERIMAIRE CONCERNANT LE PROGRAMME AFRICAIN DE MISE EN PLACE DE DISPOSITIFS D'ENQUETES SUR LES MENAGES

## (RESUME)

Ce document constitue la mise à jour d'un précédent rapport présenté lors de l'Atelier sur les enquêtes auprès des ménages, qui s'est réuni à Lusaka (Zambie) du 1er au 6 octobre 1984. Il résume les progrès accomplis dans l'exécution des trois volets du Programme au 31 décembre 1985. Ces trois volets concernent les projets par pays, les services consultatifs régionaux et la formation.

S'agissant des projets nationaux, 19 pays participent déjà ou s'apprêtent à participer au Programme africain de mise en place de dispositifs d'enquêtes sur les ménages (PADEM) qui constitue la version régionale du programme de mise en place de dispositifs nationaux d'enquête sur les ménages (PNDM). Le dernier pays à se joindre au programme est le Ghana, pour lequel un document de projet provisoire a été établi. Une mission devrait visiter bientôt le Nigéria afin de revoir le programme d'enquêtes mis en place dans ce pays depuis plusieurs années et le rendre plus conforme aux principes de base du PNDM. Les dix sept pays participant déjà au Programme sont l'Egypte, le Maroc, le Soudan, le Bénin, le Mali, le Sénégal, le Cameroun, le Congo, le Rwanda, le Botswana, l'Ethiopie, le Kenya, le Lesotho, le Malawi, la Tanzanie, la Zambie et le Zimbabwe. Dans six de ces pays, à savoir l'Egypte, le Soudan, le Sénégal, le Congo, le Rwanda et la Tanzanie, les programmes ne sont pas encore opérationnels.

Depuis sa mise en place, l'équipe d'experts régionaux a effectué 121 missions au total dans les pays participant au Programme et dans certains des pays qui n'y participent pas encore. Composée au cours de la période 1978-1983 de deux Conseillers régionaux financés par le PNUD et d'un expert détaché par le BIT, cette équipe a fourni des services consultatifs dans le cadre de la formulation des projets, la conception des enquêtes y compris les plans de sondage, les enquêtes sur la main-d'oeuvre, les enquêtes sur les revenus, les dépenses et la consommation, etc.

En ce qui concerne les activités de formation prévues dans le cadre du PADEM, un Atelier consacré aux enquêtes auprès des ménages s'est tenu au "Commonwealth Youth Centre" à Lusaka (Zambie), du 1er au 6 septembre 1984. Cette réunion, qui était organisée conjointement par le Fonds du Commonwealth pour la coopération technique (CFTC) et la Commission économique des Nations Unies pour l'Afrique (CEA) en collaboration avec le Gouvernement zambien, a examiné, entre autres, les problèmes relatifs à la qualité et à la fiabilité des données tirées des enquêtes sur les ménages, l'analyse et l'utilisation de ces données, les directives concernant la présentation des résultats et leur diffusion, la construction de banques de données, le Programme national d'enquêtes par sondage et d'évaluation du Kenya (NASSEP) et le programme de travail futur du Service consultatif régional.

# ISSUES AND PROBLEMS RELATED TO TECHNICAL ASSISTANCE PROGRAMMES IN STATISTICS*

## FOUR CASE STUDIES

### INTPODUCTION

In this paper selected issues and problems relating to technical assistance programmes in the field of statistics will be discussed using four major statistical programmes as case studies. The programmes to be considered in chronological order are the African Census Programme - 1971 to 1977, the World Fertility Survey - 1974 to 1984, the on-going National Household Survey Capability Programme, and the Statistical Training Programme for Africa. The issues to be dealt with include the conceptualization and realization of objectives and the short-comings of the programmes. Also to be considered is the mode of delivery of the technical assistance.

### AFRICAN CENSUS PROGRAMME

The African Census Programme was initiated in 1971 in response to the demand by a number of African countries for technical and financial assistance to enable them to participate in the 1970 round of population and housing censuses. It may be recalled that in 1968 a working group was convened in Addis Ababa to formulate recommendations for the 1970 programme of population censuses in Africa. It was realised then that a large number of African countries would not be able to participate in the programme due to lack of financial and technical resources. The issue was then taken up at the United Nations Population Commission in 1969 which requested that steps should be taken to ensure that these African countries were assisted to carry out their censuses. In 1971 therefore the African Census Programme was set up with the following long range objectives:

"To assist African Governments in creating a capacity for conducting all types of demographic data-gathering operations, in particular, population censuses and demographic surveys which could be used to secure a variety of social, economic and demographic information, and also to stimulate the development of vital statistics registration systems; to build up national cadres of officials trained in demographic data-gathering techniques; to increase the capacity of Governments to utilize effectively the data resulting from censuses, surveys and vital registration systems by taking population factors fully into account in their economic and social development planning".

* This paper was presented by the Chief of the ECA Statistics Division at the Tenth Conference of Commonwealth Statisticians (31 July - 9 August 1985). The paper is being reproduced here for wider circulation at the request of some participants at that Conference.

The immediate objectives were:

"To enable the 21 countries participating in the Programme to carry out their population censuses and related demographic surveys, and to utilize the data obtained therefrom for assessing their demographic situation; to train, as far as possible, the personnel needed for all phases of the census operations".

The number of countries was subsequently increased to 22. The countries are listed in Annex I. The main objective of the African Census Programme, as implied by the previous section, was to obtain information on the size and characteristics of the population in each of the 22 countries for the use by planners, administrators, researchers and policy makers. It was assumed from the very beginning of the programme that the preparation and execution of the censuses and publications of results in the 22 countries would begin on 1 July 1971 and last for four years. Unfortunately by 1 July 1975 only seven of the 22 countries had completed the enumeration phase of their censuses. It is obvious that those who made the original estimate were not too familiar with conditions in the African region and had thus tended to be too over-optimistic. At the end of 1977 when the programme officially came to an end, only 17 countries had completed their censuses. It is not appropriate in this paper to go into the detailed history why the achievement rate was not as high as expected at the end of the four years. However it is possible to list the principal problems as follows: defects in the census plans, delays in the recruitment of the right type of country experts, problems in making counter-part budgets available, and in training national counter-part personnel, and internal problems such as civil strife which had nothing to do with the statistical operations of the African Census Programme.

With respect to the census programme it might be necessary to note that there were delays in approving the projects by the funding agency, which could not wholly be attributed to the agency itself. It may be recalled that 13 of the 15 countries submitted their project requests in 1972 or later. The average time taken to approve requests was nine months. The average time interval between approval of requests and the arrival of country experts was five months, and the time needed for census preparations after arrival of an expert averaged 23 months between a country's request for assistance and the enumeration of its population. These figures are averages and thus it is to be expected that there were exceptions to the general pattern at opposite ends of the spectrum. It is obvious from the above analysis that it should have been assumed from the timing of the original project requests that 1975 rather than 1974 would be the peak year for census enumeration.

Since this paper is it part dealing with the evaluation of technical assistance projects, it is necessary to devote part of it to a further discussion of the problems summarised in the preceding paragraph. As already stated, there was a great variation in the time taken to approve project requests and recruit experts. The longer delays in project approval were associated in part with practical problems in individual countries, or the frequent revision of original requests. The delay in supplying an expert after approval of the request is presumably inherent in the UN recruitment

process. It tends to affect recruitment of both regular budget and project staff. The average time between the final approval of a project with the allocation of funds and the fielding of the corresponding expert is about 8 months.

The average of 23 months needed for census preparations varied between 19 and 29 months for individual countries. The lead time is certainly longer than envisaged in original project requests, but when account is taken of the need to construct an adequate geographical frame for the enumeration and also to establish a satisfactory field and office organization, this is not unreasonable. Both operations need time and, in some countries, there are problems arising from difficult terrain or weakness in the local administration or inconvenient changes in the structure of the civil administrative units. Preparatory work has also been delayed in a few cases by late arrival of UN funds and vehicles. A further factor which adds to the lead time is that due to climatic conditions only one or two periods of the year are suitable for census taking in most African countries. Any unexpected delay in preparations can therefore easily result in a postponement of a complete year.

These problems plagued the initial phase of the implementation of the African Census Programme. By 1975 however, the main lessons from the implementation of the programme had been learnt and more realistic projects were being drawn up. These new or revised projects took into account the lead time required for the fielding of an expert, two years of preparatory activities and two years of post-enumeration work including data processing, evaluation, analysis, publication and dissemination.

Another problem was the four way control over the census operations. It should be noted that at that time the executing agency for such projects was the Office of Technical Co-operation (OTC) of the UN. It was assisted in its evaluation of projects by the UN Statistical Office and the UN Population Division though later this function was taken over by the Population Projects and Programmes Division of the Department of Technical Co-operation for Development. OTC was responsible for recruitment of country experts, purchase of equipment etc.

There was also the regional component in the UN Economic Commission for Africa (ECA) with a number of regional advisers in the field of census cartography, demographic statistics, demography, sampling and data processing. The number of experts varied from four to seven and the regional component at ECA had the main role of backstopping the projects in the 22 countries. The international experts i.e. country experts under this programme reported directly to OTC and could ignore the advice of the regional advisers in ECA.

Another problem was the recruitment of a large number of country experts in a relatively short period of time. In a major operation of this nature it is easy to find a small number of good experts who can be recruited but as the demand for such experts grows, those recruited in the last stage may not be of a uniformly high standard. The reputation of African Census Programme in a number of countries suffered as a result of the poor quality of work done by a few experts. In certain cases experts found to be unsuitable in one country were transferred to other countries where they continued to produce poor quality work because no better experts could be found who were available and willing to work in those countries. It is important therefore to stress that in a major operation of this nature there may be advantages from the very beginning in planning to stagger the enumeration periods of the different countries in such a way that a good expert completing his assignments in one country can be transferred to another instead of trying to carry out the projects at the same time and therefore having to dilute the quality of experts attached to some of them.

In 1978, the United Nations Fund for Population Activities (UNFPA) appointed a team of experts to carry out an in-depth evaluation of ECA population activities. This evaluation covered inter alia that part of the African Census Programme which was sited at ECA, namely the regional advisory service. The team identified a number of problems 1/ viz.

- "the relative neglect of analysis of census data collected;

- the recruitment of country experts and their relationship with ECA;

- the training of national counterpart personnel".

It reached the conclusion that "on balance, the African Census Programme has had positive results in four major areas i.e. in:

- the building up of a stock of demographic data. The programme has resulted in the improvement and updating of existing data, and it should be possible for the quality of the data from the next round of censuses to be appreciably improved, and for a much wider utilization to be made of the results;

- the training of personnel, although this varied from country to country;

- an increased awareness of population phenomena among government officials, technical personnel and the general population, as a result of the fact that censuses necessitate the active participation of the entire population of the country (on the other hand, the impact of a census is generally rather temporary);

- the practical experience gained, which can be utilized in planning future censuses."

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1/ UNFPA Report of the Evaluation of UNFPA Assistance for Regional Population Activities in Africa Implemented by the Economic Commission for Africa. UNFPA New York 1978.

The above views were also supported by another team of experts which evaluated UNFPA assistance in population censuses to eight countries 2/.

To sum up, the African Census Programme assisted a large number of countries to carry out their population censuses most of whom would otherwise have been unable to do so, thus creating a large data base of demographic, social and economic data on the population. A large number of national counterpart staff was trained in many countries with the intention that such staff would supervise future operations of the same nature. It should be noted however that in some countries this objective of the African Census Programme could not be realised because international experts could not resolve satisfactorily the conflict between adhering to the census calendar of activities and devoting time to training their counterparts. Even in those countries where counterpart training was possible, the frequent changes in the professional staff in African statistical offices made it impossible for the trained counterpart staff to be available to carry out the operations in connection with population censuses and demographic surveys undertaken in the following years.

THE WORLD FERTILITY SURVEY

The World Fertility Survey (WFS) is probably the largest social science survey research project ever undertaken. Funded mainly by the UNFPA and the United States Agency for International Development (USAID), with a significant contribution from the United Kingdom Overseas Development Agency (UKODA), the WFS had the following three major objectives:

- to assist countries to acquire the scientific information that will permit them to describe and interpret the fertility of their population;

- to increase national capabilities to undertake fertility and other demographic surveys and associated research, particularly in developing countries; and

- to collect and analyse internationally comparable data on fertility and to make these available to researchers for comparative analysis.

For the benefit of those who are not familiar with the WFS, it is necessary to state that 46 developing and 19 developed countries participated in the project. The regional distribution of the countries is as shown in Annex 2. The WFS was formally inaugurated in 1974 and terminated on 30 June 1984, though some residual activities, mainly in connection with its archives, continued after that data.

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2/ UNFPA Report of the Evaluation of UNFPA Assistance to censuses in eight selected countries participating in the African Census Programme. UNFPA New York 1979.

There were major differences between the mode of operation of the WFS and that of the African Census Programme. Firstly, the WFS had two advisory bodies: The Programme Steering Committee (PSC) and the Technical Advisory Committee (TAC). On both these committees were institutional and organizational experts in the fields of statistics and demography from the different regions of the world. The African Census Programme relied on an internal United Nations programme management and monitoring approach. Secondly the WFS had one director with overall responsibility for all the technical and administrative aspects of the surveys undertaken while such responsibility was shared among different directors/chiefs of different departments/offices/divisions of the UN. Thirdly, the funding arrangements for the country projects in the WFS were different. USAID obligated funds to WFS but each country project required prior clearance from USAID before actual approval was given. UNFPA on the other followed its usual procedures, namely that WFS projects were cleared in the same way as African Census Programme country projects. UKODA followed the USAID approach. Thus, the Project Director of the WFS had more control over execution of projects under the WFS than any "comparable" authority in the African Census Programme. No statement made here should be interpreted to imply that one approach was necessarily superior to the other. What can definitely be stated is that approval of projects took less time than was the case with the African Census Programme. Fourthly, the African Census Programme relied on experts at both country and regional level to backstop country projects, with minimal technical advice by interregional advisers. The WFS on the other hand relied almost solely on technical advisers equivalent to interregional advisers based at its headquarters in London. There were a few cases in the African region when country advisers were used but these were the exceptions rather than the rule.

It has been argued that the WFS approach was superior because the technical advisers could always consult their colleagues on their return to base on any problematic issues. Also the fact that fewer experts covered all the countries ensured a more uniform application of concepts, definitions, classifications and methodology. For the African Census Programme, it can be argued that principles and recommendations for carrying out a census had over the years been standardised and therefore good country experts ably backstopped by regional and interregional advisers would be able to achieve the same uniform standards as claimed for the WFS. In any case, in at least the African region, the WFS followed the African Census Programme and was able to make use of durable infrastructures already established by the latter.

The next question is to what extent the WFS was able to fulfill all its objectives. It is generally agreed that the WFS improved the state of the art in fertility and related surveys as far as the countries which participated in the programme are concerned. As a sequel to the Knowledge, Attitude and Practice surveys which had been carried out in the 1950's and 1960's, the WFS assisted a number of countries to have more and better information on their fertility.

There are however a number of controversial issues involved in using the framework of a standardised multi-national research. The WFS by insisting on a more or less inflexible core questionnaire with modules which are more or less fixed in content may not always have helped individual countries in interpreting their fertility. In general it seems to be accepted that the WFS helped in finding the proximate or intermediate determinants of fertility but was rather weak on explanatory and contextual variables. Nevertheless the WFS improved the state of the art in fertility surveys and assisted countries to amass scientific knowledge to describe and interpret the fertility of their population. So technical assistance in that context could be said to have been ably delivered to the countries which participated in the surveys.

It is also worth noting that the objectives of the WFS suitably modified would apply to any proposed multinational surveys programme and therein arises the conflict of objectives. It is possible in theory for a multi-national survey programme to fulfill all these objectives. However, in actual practice, not all the objectives can be met especially if there is a fixed time frame in which all surveys have to be completed. For the WFS, it is generally assumed that the first and third objectives appear to have been adequately met but the second objective, namely survey capability building, may not have been adequately satisfied especially in a number of African countries.

This brings up the issue of how far the competing claims of the three objectives can be met in other surveys - taking four types of surveys which are generally conducted in many countries i.e. general demographic surveys, labour force surveys, migration surveys and income, consumption and expenditure surveys. It should be noted that the agricultural survey has not been listed, because it is generally regarded as belonging to the other end of the spectrum together with population and housing censuses where only a general framework and research purpose need be common to all countries.

As stated in the WFS Symposium 3/ in London in April 1984, the WFS approach can, with suitable modification, be applied to a general demographic survey but serious problems may arise on the other types of surveys mentioned above. As far as the general demographic survey is concerned there may of course be problems with concepts, definitions and classifications but these can be surmounted with suitable adaptations.

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3/ DE Graft-Johnson, K.T. Comments on "Standardized Multinational Research: Strengths and Weaknesses" by Chander, R and Grootaert, C. World Fertility Symposium London 1984.

It is in the field of analysis that the most serious issues arise, namely how far the need to interpret the demographic situation in a country conflicts with the needs of international comparability. While one can easily concede that looking at one's country data in relation to similar data from other countries helps in interpreting the data, one should also be aware that looking at the data mainly from that point of view can obscure some aspects of the correct interpretation of the data in the political, socio-economic and cultural context of the country. Many of the foreign experts who have spent short periods in African and have tended to do this have ended up by having high reputations as African experts outside but low reputations in Africa and their colleagues have, in certain cases, found their findings most amusing.

It is necessary at this stage to answer the question: "Standardized Multi-National Research - Do the weaknesses outweigh the strengths?" The answer is not simple. It depends on the nature of the research and its purpose. A research whose primary focus is international comparison of data would naturally aim at the most extensive standardization possible to facilitate these comparisons. However, if the research programme has aims similar to the three-fold objectives of the WFS, then one has to remember that the primary aim is to assist countries to obtain information with which to describe and interpret a particular situation. If multi-national standardization assists in this interpretation, then there is no problem but if it introduces irrelevant and extraneous factors into the understanding of the country's situation, then such an approach should be discouraged.

Another question to be considered is costs. Are such surveys more cost effective? The WFS is the first major social science research venture of its kind and therefore it is difficult to use the WFS experience to provide a clear answer to the question. Further analysis of costs have to be made. In this connection, it has to be borne in mind that although UNFPA and USAID and other donors spent a lot of money on WFS, the developing countries also invested a lot of money and effort on the undertaking. If they derive maximum benefit from the endeavour, they may be encouraged to participate in future ventures of this nature. If, however, they see themselves being exploited to provide data for research institutes in the developed countries, their enthusiasm for such ventures may wane.

Finally, in respect of the WFS, it is necessary to answer more explicitly than was done in an earlier paragraph of this section of the paper the question "Did the WFS lead to significant capability building in the developing countries which participated in the multi-national research?". The answer lies in the subtle difference between building up the capability of an institution and that of individuals. By its comprehensive technical publications, its workshops, its country training programmes etc., it certainly improved the abilities of persons in individual countries participating in the survey in the field of fertility data collection and analysis. The effect on institutions in many countries was unfortunately different. Such contribution to institution building is generally measured by the ability of the institution to carry out a similar survey in future with very minimal external technical assistance. Regretably, many institutions especially in Africa which participated in the WFS would not be able to carry out second round surveys of the same standard on their own. This is a general problem and not one specifically related to the WFS.

NATIONAL HOUSEHOLD SURVEY CAPABILITY PROGRAMME

As a result of the experience gained in the initial phase of the implementation of the African Census Programme, the Conference of African Statisticians at its eighth session in 1973 recommended that an African Household Survey Capability Programme (AHSCP) be considered as a sequel to the African Census Programme. It recommended that the technical and practical aspects of such a programme be investigated by a Working Group on Organization, Content and Methodology of Household Surveys for which three 4/ internationally recognized survey statisticians should be invited as consultants. Accordingly this Working Group was convened in Addis Ababa in September 1974. Concerned UN specialized agencies such as FAO, ILO, UNESCO and WHO participated in its deliberations. The Working Group discussed the basic subject-fields for household surveys and the essential requirements for the development of a permanent field survey organization. The Group also considered the advantages of multi-phase sampling for multi-subject surveys and the merits of self-weighting designs.

At the end of its deliberations the Group recommended that "countries should build up survey capabilities of national coverage as quickly as possible, rather than to organize inquiries on a region-by-region basis. However, the size and composition of field organizations would depend on local resources and it was felt that, in some cases, regional branches of the statistical office would not be necessary." It also recommended the co-ordination of household surveys with other statistical activities and technical assistance and related activities. The preliminary estimate of the annual cost of an average size survey organization was given to be approximately $438 000.

The proposal to set up the AHSCP was approved by all the relevant legislative bodies of the UN and in 1978 it became fully operational. Meanwhile the UN Statistical Commission at its nineteenth session had fully supported the AHSCP and had recommended its adaptation to meet the needs of other developing regions. In its resolution 2055 (LXII) the Economic and Social Council of the UN drew "the attention of developing countries in all regions to the value of a continuing national household survey capability in serving their national needs for reliable and integrated statistics as a necessary complement to periodic census programmes;" and requested "the Secretary General and the UNDP, in co-operation with the World Bank and in consultation with other multilateral and bilateral donor agencies, to convene a meeting, as soon as is practicable, to consider ways and means of carrying out this necessary and important development activity, including the provision of resources for needed intercountry technical advice and training in this statistical field."

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4/ Only two of the invited experts accepted the offer.

The main subject fields that can normally be covered in the National Household Survey Capability Programme (NHSCP) are outlined in the NHSCP Prospectus 5/ as follows:

- household consumption, expenditure, income, assets, debts;
- labour force, employment, unemployment and underemployment;
- demographic characteristics, household and family structure, position of women and children;
- fertility, mortality and migration;
- conditions of housing, water supply, health, nutrition, education, literacy, culture, and access to and use of related facilities and services; and
- productive activities and outputs of households including household enterprises engaged in agriculture, industry, trade, etc. and access to and use of related facilities.

Annex III lists the countries which are participating in the NHSCP as of 31 August, 1984. Africa has the most country project proposals formulated as well as actual project implementation. Seven member States of the Commenwealth are also enrolled in the NHSCP.

It may be recalled that the primary objective of the NHSCP is to assist countries to set up durable statistical infrastructures for the collection, processing, evaluation, analysis and dissemination of integrated demographic, social and economic data on households and household members. The programme claims the following important features: country orientation, wide choice of subjects, flexibility, integrated approach to statistical activities, benefits of continuity, cost-effectiveness, generation of internationally comparable data and, technical co-operation among developing countries. The most important of these features are the elements of continuity and cost-effectiveness.

However, the programme is still in its implementation phase and cannot yet be evaluated against its stated advantages - for example, that the NHSCP by ensuring a continuous programme of surveys is expected to reduce costs. Unfortunately, in Africa, for example, only Kenya, Malawi and Ethiopia can be regarded as having demonstrated beyond reasonable doubt that the continuous programme has the elements listed in the preceding paragraph. In the other countries delays in implementation have in general made some of the national programmes appear not much different from the ad hoc surveys which were in vogue in the region in the recent past.

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5/ United Nations. The National Household Survey Capability Programme Prospectus. United Nations New York, 1980.

It is instructive to contrast the contributions, actual or potential, of the NHSCP to capability building in developing countries, with those of the WFS. It may be recalled that the NHSCP is a multi-subject survey programme while the WFS was a uni-subject one. Unlike the WFS, the NHSCP does not recommend a core questionnaire or even a core survey, though countries like Kenya and Egypt have built, or intend to build, their survey programmes around specific subject fields. The NHSCP intends to use three types of experts: country experts, regional advisers and interregional or technical advisers. The WFS used mainly technical advisers. The WFS had a big budget for running its central office. The Central Co-ordinating Unit (CCU) of the NHSCP has only a modest one. However, comparisons of this nature are not always valid. The WFS central office also backstopped country projects. The cost of such services should properly have been charged to the latter. In the absence of country experts and regional advisers, the tasks normally carried out by these were undertaken by the staff of the WFS central office. Both WFS and NHSCP have produced technical documentation, though the WFS documentation was more extensive, had greater scope and was more widely disseminated. The NHSCP encouraged National committees of producers and users of household survey data. The WFS contribution in this context varied from country to country.

It is now appropriate to summarise the main contributions of the NHSCP to technical assistance. The NHSCP has led to adequate sampling frames being constructed. It is reckoned that by 31 March 1984, 11 of the 19 countries with NHSCP projects operational and constructed master samples. The importance of master samples for continuing survey programmes and their cost-effectiveness cannot be over-emphasised. However, it should be emphasised that where master samples have been constructed there should be built-in checks against obsolescence after the sample has been used for about three years.

The NHSCP has led to the establishment or strengthening in countries of permanent field staff capable of undertaking household surveys on a continuing basis. The merits of permanent, as compared to temporary, field staff need not be considered here as they have been discussed ad nauseaum in other meetings.

A third contribution of the NHSCP is in the establishment or upgrading of data processing facilities. It should be noted that the WFS was forced in a few cases to process all or part of the data in London. It is the intention of the NHSCP to build up capabilities within each country participating in the programme to deal with every aspect of data processing.

A fourth contribution is in the field of training. Working groups, seminars and workshops have been used to train the top echelon of the staff in the countries participating in the NHSCP. The training has not yet been as extensive and intensive as that undertaken by the WFS but it is expected that in the coming years this shortfall will be redressed.

Finally, the NHSCP has encouraged the analysis of the data being generated from the country programmes. To do this adequately, it has actively promoted the upgrading of skills in this area. In this connection, ECA has commissioned a study on household data applications and analysis.

The main emphasis of the programme, as implied in its objective, is to assist the training centres participating in the STPA by strengthening training at these centres through training of trainers. This involves awarding fellowships to lecturers at statistical training centres to enable them to obtain higher qualifications in statistics for to gain more specialized practical knowledge which will be required for the training of their students. STPA has also delivered technical assistance through the provision of short term consultants. This helps to fill gaps created while trainers are on study leave.

By August 31, 1984, there were 15 centres participating in the STPA, two of which are specialized demographic training centres. There are also 5 associate centres. The following can be considered as the significant contributions of STPA since inception:

- Four guide syllabuses have been prepared. These are:
  - guide syllabus for middle level statistical training for STPA centres;
  - guide syllabus for middle level training for the special case of African countries of Portuguese expression;
  - guide syllabus for in-service statistical training for African countries; and
  - guide syllabus for professional level training.
- Thirty six consultants or external lecturers have been given appointments averaging 3 months each to lecture on specific applied statistics topics in the STPA centres.
- Sixteen fellowships have been awarded to some trainers for their training outside the region.
- Twelve other fellowships have been given to some practising statisticians for their participation in group training and workshops to enhance their practical experience.
- In connection with ECA's assistance to countries/centres in seeking block funding of trainee fellowships, a joint EEC/ACP/ECA study on statistical training needs for Africa has been undertaken.

The recommendations of this study have still to be implemented, pending the decision of EEC.

- In the framework of special assistance to the Portuguess-speaking African countries, a study on the statistical training needs for the above countries has been completed.

THE STATISTICAL TRAINING PROGRAMME FOR AFRICA

At the second session of the Conference of African Statisticians convened in 1961, the question of statistical training in order to raise the performance of national statistical offices was considered. Priority was given to middle level training since it was argued that without a well trained supporting staff a statistical office could not function efficiently. Thus in 1961 four statistical training centres supported by the UN were established, followed four years later by a fifth centre. It should be noted that at this time most professional training took place outside the region but the French-speaking countries had already established professional training centres in Africa in the early 1960's while the English-speaking countries established such a centre only in 1969. Although the Institute of Statistics was established in the University of Ghana in the early 1960's it is not considered here because it was strictly limited to research and graduate studies.

In 1977 a working group on statistical training in Africa was convened in Munich to assess the achievements so far made after 10 years of UN supported statistical training in the region. The evaluation of the progress made covered inter alia the number of students produced at each level, the orientation of the courses, and availability of teaching material and staff. It was decided at this working group that it would be necessary to increase the output of the training centres by 60 per cent through a co-operative regional effort if Africa was to be relatively self-sufficient by the year 1988.

The tenth session of the Conference of African Statisticians - now merged with other bodies of ECA to become the Joint Conference of African Planners, Statisticians and Demographers, after considering the Working Group's report recommended the establishment of the Statistical Training Programme for Africa (STPA). This recommendation was formally endorsed by ECA (XVIII) resolution 9 of the ECA Executive Committee in 1978. The Economic and Social Council in resolution 2054 (LXII) expressed its concern that because of lack of necessary financial and personnel resources, developing countries were unable to set up and maintain an effective machinery to train all levels of statisticians. It therefore requested the UNDP to assist in financing the training of statisticians especially through its regional funds. Accordingly, the STPA was established with 12 centres and an associate centre with the following objective to ensure that Africa has a permanent supply of trained statistical staff for statistical and other services through:

- the training of an increased number of statistical personnel; and
- the improvement and maintenance of the quality of statistical personnel already in service.

In the first phase of its work the UNDP allocated US$950 000 to statistical training for the period 1978-81. It subsequently provided an additional sum of approximately US$1.9 million for the period 1982-86.

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The main emphasis of the programme, as implied in its objective, is to assist the training centres participating in the STPA by strengthening training at these centres through training of trainers. This involves awarding fellowships to lecturers at statistical training centres to enable them to obtain higher qualifications in statistics or to gain more specialized practical knowledge which will be required for the training of their students. STPA has also delivered technical assistance through the provision of short-term consultants. This helps to fill gaps created while trainers are on study leave.

By August 31, 1984, there were 15 centres participating in the STPA, two of which are specialized demographic training centres. There are also 5 associate centres. The following can be considered as the significant contributions of STPA since incention:

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The recommendations of this study have still to be implemented, pending the decision of EEC.

- In the framework of special assistance to the Portuguess-speaking African countries, a study on the statistical training needs for the above countries has been completed.

- A working group on Statistical Organization and Manpower has been organized to discuss the main conclusions of the survey of African countries undertaken on this subject. The aim was to relate the conclusions of this study to the orientation of STPA cebtres.

- Linkages have been established between five developed country centres outside Africa - the associate centres, and STPA centres.

- Three meetings of directors of STPA centres have been convened to discuss problems of statistical training in the region and how to tackle them.

One of the serious problems which has confronted the STPA is the inadequacy of student fellowships. The problem is due mainly to the way aid agencies organize their assistance to countries. There is normally an actual or nominal indicative planning figure and national authorities have to submit their requirements for assistance to a designated point of contact. Most of the countries which are in dire need of trained personnel in statistics are also the very countries with other pressing needs. Thus statistics usually loses out. The net result is that without trained statistical personnel, there are serious data gaps which makes technical planning impossible and often leads to wastage in projects funded by multilateral and bilateral agencies. Developed countries which give aid have to address this problem seriously to ensure that their technical assistance projects which require statistical information for their proper preparation, implementation, monitoring, appraisal and evaluation as well as review are executed efficiently.

CONCLUSION

In the preceding sections, four major technical assistance projects and their different approaches to the delivery of such assistance has been outlined. There are a number of emerging issues. Should donors rely on country experts, regional advisers or interregional advisers? The answer is not simple. There are many statistically developing countries especially in Africa where in spite of the progress made by STPA, country experts will be required at least until the end of this decade. But if technical assistance in the field of statistics is to achieve its primary objective then it should aim at making it possible for internationally recruited country experts to be redundant by 1994. Nationals should be trained and encouraged to do the work. Expert assistance should be provided through short term consultancies and regional or interregional advisory services. Even these services should be redundant by the year 2000. Assistance to countries after that date should be in the context of technical co-operation among developing countries. This suggestion is being made in the belief that developing country statisticians have not always been helped by the presence of these resident country experts who stay in countries for a long time and are more interested in their tenure than in training their counterparts.

In giving assistance also, donor governments and agencies should insist on prior obligations on the part of the governments being assisted to ensure not only that projects are well executed but also to avoid the mistaken impression in certain cases that projects are being implemented in the interest of the donor.

Finally, donors should look at the whole package of aid in the field of statistics to ensure that their assistance is contributing to statistical development. In this connection, co-ordination of aid to countries should be given high priority. Such co-ordination should exist not only at the receipent government level but also among the donors themselves.

ANNEX I

LIST OF COUNTRIES PARTICIPATING IN THE
AFRICAN CENSUS PROGRAMME

| SUBREGION AND COUNTRY | DATE OF CENSUS ENUMERATION |
|---|---|
| NORTH AFRICA | |
| Libyan Arab Jamahiriya | July 1973 |
| Sudan | April 1973 |
| WEST AFRICA | |
| Benin | March 1978 |
| Gambia* | April 1975 |
| Ivory Coast | April 1975 |
| Liberia | February 1974 |
| Mali | December 1976 |
| Mauritania | December 1976 |
| Niger | May and July 1977 |
| Nigeria | November 1973 |
| Senegal | April 1976 |
| Sierra Leone* | December 1974 |
| Upper Volta | December 1975 |
| CENTRAL AFRICA | |
| Burundi | August 1976 |
| Central African Republic | December 1977 |
| Chad | (Postponed indefinitely due to internal conflicts) |
| Congo | February 1974 |
| United Republic of Cameroon | April 1976 |
| EAST AFRICA | |
| Ethiopia | Originally scheduled for 1974 but postponed and finally undertaken in May 1984 |
| Madagascar | February 1975 |
| Mauritius* | June 1972 |
| Somalia | February 1975 |

* Member States of the Commonwealth

ANNEX II

PARTICIPATION OF COUNTRIES IN THE WORLD
FERTILITY SURVEY PROGRAMME

AFRICA
Benin
Cameroon
Egypt
Ghana*
Ivory Coast
Kenya*
Lesotho*
Mauritania
Morocco
Nigeria*
Senegal
Sudan (North )
Tunisia
MIDDLE EAST
Jordan
Syria
Turkey
Yemen Arab Republic
CARIBBEAN
Guadeloupe and Martinique (associate status)
Guyana
Haiti
Jamaica*
Trinidad and Tobago*
Belgium
Bulgaria
Czechoslovakia
Denmark
Finland
France
Hungary
Israll
Italy
Japan
Netherlands
Norway
ASIA AND OCEANIA
Bangladesh
Fiji*
Hong Kong (Associate status)*
Indonesia
Iran
Korea, Republic of
Malaysia*
Nepal
Pakistan
Philippines
Sri Lanka*
Thailand
EUROPE
Portugal
LATIN AMERICA
Columbia
Cost Rica
Dominican Republic
Ecuador
Mexico
Panama
Paraguay
Peru
Venezuela
Romania
Spain
Sweden
Switzerland
United Kingdom*
USA
Yugoslavia

* Member States of the Commonwealth

*ANNEX III*

*COUNTRIES PARTICIPATING IN NATIONAL HOUSEHOLD SURVEY CAPABILITY PROGRAMME AS OF 31 AUGUST 1984*

AFRICA
Benin
Botswana*
Cameroonq
Congo
Egypt
Ethiopia
Kenya*
Lesotho*
Malawi*
Morocco
Mali
Rwanda
Senegal
Sudan
Tanzania*
Zambia*
Zimbabwe*

MIDDLE EAST
Bahrain
Jordan
Syria
Yemen Arab Republic

SOUTH-EAST ASIA
Bangladesh
China
Fiji
Pakistan
Samoa*
Sri Lanka *
Thailand
Tonga*

LATIN AMERICA
Costa Rica
Honduras
Nicaragua
Peru

EUROPE
Cyprus*

*Member States of Commonwealth

Note: The projects are not yet operational in Congo, Egypt, Rwanda, Senegal, Sudan and Tanzania; syria, Bangladesh, China, Fiji Pakistan and Tonga; Cost Rica, Honduras.

# QUESTIONS ET PROBLEMES RELATIFS AUX PROGRAMMES D'ASSISTANCE TECHNIQUE DANS LE DOMAINES DE LA STATISTIQUE
## QUATRE ETUDES DE CAS

(RESUME)

Ce papier traite quelques questions et problèmes importants relatifs aux programmes d'assistance technique dans le domaine de la statistique en se basant sur quatre principaux programmes statistiques. Il s'agit précisement du Programme africain de recensement (1971-1977), du Programme mondial sur la fécondité (1974-1984), du Programme de mise en place de dispositifs nationaux d'enquête auprès des ménages et du Programme de formation statistique pour l'Afrique (ces deux derniers actuellement en cours).

a) Le Programme africain de recensement (PAR) 1971-1977

Pendant que le PAR assistait nombre de pays africains dans la création d'une vaste base de données pour les statistiques démographiques, sociales et économiques en aidant dans la conduite de recensements de la population, sa performance en matière de formation et de perfectionnement du personnel statistique était mitigée. Il est reconnu que dans beaucoup de pays bon nombre de personnel de contrepartie ont été formés, mais dans quelques pays, la lourde charge de travail incombant aux experts internationaux n'a pas permis à ces derniers de disposer de temps pour assurer également la formation.

b) L'Enquête mondiale sur la fécondité (EMF) 1974-1984

Il se dégage de l'opinion générale que l'EMF a contribué à améliorer les connaissances techniques et le savoir faire en matière d'enquête sur la fécondité et les enquêtes connexes dans les pays qui ont participé au programme. Toutefois l'accent qui a été mis sur la comparaison internationale à des fins d'analyse avait tendance à obscurcir certains aspects concernant l'interprétation correcte des données dans le contexte politique, socio-économique et culturel du pays.

c) Le Programme de mise en place de dispositifs nationaux d'enquête auprès des ménages (PNDEM)

Le premier objectif du PNDEM est d'assister les pays dans la mise en place d'infrastructures durables pour la collecte, le traitement, l'évaluation, l'analyse et la diffusion de toutes les données démographiques, sociales et économiques sur les ménages.

Le PNDEM a permis au stade actuel la création de base de sondage adéquate, l'établissement ou le renforcement du personnel permanent de terrain capable d'enterprendre des enquêtes continues et la constitution ou le renforcement des équipements pour le traitement informatique des données ainsi que le renforcement de la formation.

d) Le Programme de formation statistique pour l'Afrique (PFSA)

Le PFSA a été créé dans le but d'assister dans la formation d'un nombre croissant de personnel statistique, dans le renforcement et le maintien de la qualité du personnel statistique déjà en service. Actuellement le PFSA a atteint une partie de ses objectifs grâces aux programmes-types qu'il a préparés, aux services de consultation qu'il assume et aux bourses qu'il accorde pour la formation des formateurs. Le principal problème jusque là rencontré relève de l'insuffisance du nombre de bourses d'études.

# TECHNICAL CO-OPERATION IN STATISTICS*

## INTRODUCTION

Technical co-operation in statistics has a long history and has been used by the central statistical services of most developing countries. In Africa, which requires this kind of assistance more than elsewhere, technical co-operation advisers began to replace the staff previously provided by colonial governments as countries became independent towards the end of the 1950s and during the 1960s. It is now time to assess the extent to which technical co-operation projects have been successful, particularly because the funds available to support them are likely to decline in the future and the cost-effectiveness of operations will become an increasingly important consideration. The Conference of Commonwealth Statisticians can serve as a very useful forum to review past experience and advise on future lines of action.

The purpose of the present paper is to provide summary information on the main aspects of technical co-operation in statistics and, at the same time, draw attention to issues relevant to the performance of technical co-operation and future arrangements. A few tentative conclusions are presented and the examination of their viability may provide a starting point for the deliberations of the Conference.

The paper is closely related to five others which will be examined in the same session. In one of these, technical co-operation is considered in the context of several large statistical projects in progress or already completed. Three other papers present the views of Sri Lanka, Zimbabwe and the Caribbean as recipients of technical co-operation. The fourth paper gives United Kingdom experience as a donor to statistical co-operation. Taken together, the five papers illustrate views of technical co-operation in statistics from several different standpoints. The intention is that they should enable the Conference of Commonwealth Statisticians to assess the usefulness of current efforts and propose improvements.

## AVAILABILITY OF DATA

Ideally, a paper of this kind should be supported by comprehensive data which show how assistance to statistics in developing countries has changed during roughly the last 35 years. Such data might be produced through research into thepppublished reports and internal operating records of the various multilateral, bilateral and private agencies which have provided statistical assistance, but the task would be extensive and detailed and could be unrewarding for several reasons.

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* This paper was presented by the former Chief of the ECA Statistics Division at the Tenth Conference of Commonwealth Statisticians (31 July - 9 August 1985). The paper is being reproduced here for wider circulation at the request of some participants at that Conference.

Apart from the more obvious multilateral and governmental donors, it would be difficult to establish anything approaching a complete list of all agencies involved because it would include universities and companies which undertake technical co-operation on a sub-contractual basis. Some of these agencies might not be willing to divulge details of their operations, even if they have recorded them over a long period. More important, all agencies have tended to keep records for accounting purposes and for the review of individual projects rather than for comprehensive analysis. It is therefore unlikely that the records, if collected, would provide more than a general indication of the magnitude and trends of statistical co-operation. There would also be problems in interpreting the records because of the diversity of donors' aims. In this situation, no attempt can be made to provide comprehensive background information for the present paper. Nevertheless the shortfall suggests a basic requirement for the future. There should be a more comprehensive effort to compile and analyse data on statistical assistance to developing countries; the most suitable agency for this purpose would be the United Nations Statistical Office (UNSO).

So, what data are readily available to show the magnitude of assistance to statistics? The answer is: apart from training activities, not many and they relate mainly to expert assignments. The UNSO keeps a continuing record of the experts directly employed by the United Nations (UN) under United Nations Development Programme (UNDP) and United Nations Fund for Population Activities (UNFPA) financing. Lists are circulated regularly, but are not considered here because they cover too small a proportion of the total number of experts. Twice a year, the UNSO also attempts a more comprehensive listing of the assignments being sponsored by the UN, its specialised agencies and the major bilateral and inter-governmental donors. This is more helpful in the context of the present discussion.

A summary of the information from lists relating to 1978 and 1983 is given in Tables 1 and 2 of the annex and shows, very broadly, the number of assignments in progress by main subject area in each of the developing regions. Table 3 of the annex shows the same information for 1983, with assignments classified by donor agency and the countries or regions providing the experts, plus a single-column summary of the assignments organised by each agency in 1978. Table 4 summarises the projects executed by the UN Department of Technical Co-operation for Development in 1983. As in the case of experts employed directly by UN, it relates only to projects for which the UN, excluding specialised agencies, etc, had central responsibility, but the table may be useful because it includes some indications of budgeted costs.

It should be understood that the figures in the four tables are by no means comparable. There is a problem in identifying the nature of assignments from post titles; it is difficult to be sure how many assignments were in progress at any given time; agencies report in different ways; and the coverage of the lists is not always the same and is certainly not complete. Nevertheless the UNSO must be congratulated on having made a systematic presentation of the limited material available and some sort of a picture emerges.

In addition to the reasons given above, the figures in Tables 1 and 2 lack comparability because information on the Inter-American Statistical Institute (IASI) is available only for 1983 and on Norwegian aid (NORAD) only for 1978. However it appears that around 370 country expert assignments were in progress in 1983, as against 460 five years earlier. The number of short country assignments remained fairly constant at 70 to 80. About one half of all assignments were in Africa.

From Table 3 it can be seen that France, the United Kingdom and World Health Organisation (WHO) were mainly responsible for the reduced number of assignments in 1983, as compared with 1978. It is not, of course, possible to estimate the overall coverage of the data in the three tables, but it can probably many other sources of co-operation, such as CSBC, and probably many be noted that they exclude Eastern Europe, Australia, CSBC, and probably many other sources of co-operation. At a guess, the coverage could be about 70 per cent or a little higher.

## OBJECTIVES OF TECHNICAL CO-OPERATION IN STATISTICS

It has been said that assistance to statistics in developing countries has essentially two objectives: the development of statistical infrastructure and the production of subject-specific statistics. Logically, these two aims are not separable. An effort to improve infrastructure should lead to increased statistical output and work in any given subject field is itself a contribution to development of the overall statistical capability.

However it is notable that there have been subject-specific co-operation projects which have not made any significant impact on the overall statistical capabilities of the countries concerned. Examples are to be found in national accounts, industrial statistics and sometimes in statistical surveys. The defect is not so evident in larger scale projects such as assistance to population censuses, which necessarily lead to more confidence in and capacity for data collection and processing.

The reservation with respect to the second objective must therefore be that subject-specific projects should be organised in the context of an overall plan for national statistical development and not as separate ad hoc activities. If that is done, the point of interest is to know the extent to which technical co-operation can help in furthering both of the stated objectives. That is the central issue addressed in the present paper.

The long-term aim of statistical co-operation is of course self-reliant and sustained development. It can be achieved only when there is full governmental understanding of the need for statistics, adequate resources are made available for the work and they are used in a systematic and properly planned manner.

## INSTITUTIONAL ARRANGEMENTS

As already noted, a considerable number of agencies are responsible for the provision of assistance in statistics and it may be useful to look briefly at their institutional arrangements. Broadly, the agencies can be classified as multilateral or bilateral. In the multilateral group, the technical co-operation activities of the UN system are taken as an example because they are on a larger scale than those of other agencies. Nevertheless, it is necessary to bear in mind that the activities of agencies such as

International Bank for Reconstruction and Development (IBRD), Organisation for Economic Co-operationaand Development (OECD), European Economic Community (EEC), CFTC, regional development banks and inter-governmental organisations are also significant.

The funding of statistical co-operation organised by the UN system comes mainly from UNDP, UNFPA, the regular budget of UN, special bilateral contributions to particular projects and from a few recipient countries on a funds in trust basis. In the case of UNDP funding, indicative planning figures (IPFs) are first established over five-year periods at national and regional levels on the basis of criteria which need not be discussed here. Country and regional programmes of projects are then formulated in consultation with governments, UN regional commissions, specialised agencies, etc.

UNFPA arrangements for data collection and analysis are a little different in that they are concerned more directly with specific projects at national and regional levels in the light of policy criteria. However both UNDP and UNFPA programme proposals are subject to approval by the UNDP Governing Council. The UN regular budget is concerned with technical co-operation because staff members participate in these activities and it also finances a few regional advisers. Bilateral contributions to activities organised mainly by UN may relate to components of individual country projects or regional advisory services.

Responsibility for the execution of projects organised by UN itself rests mainly with the UN Department of Technical Co-operation for Development at UN Headquarters, working through the offices of UNDP Resident Representatives, but a number of projects of a regional or sub-regional nature are decentralised to the regional commissions. Technical backstopping is provided by UNSO and the statistics divisions of the regional commissions, often in collaboration with specialised agencies. The specialised agencies execute projects in their own subject fields. The two main funding agencies, UNDP and UNFPA, also take a close interest in individual projects. All these arrangements appear a little complicated, but they do in fact work fairly smoothly, although there is necessarily some duplication of effort.

The institutional means of providing bilateral technical co-operation are of course somewhat simpler because the programmes of individual donors are smaller. However they are usually organised on the basis of indicative planning figures, within which governments decide their own project priorities. The executing agency in the donor country is normally the ministry responsible for co-operation and it may be backstopped in varying degree by the central statistical service. Sometimes the central service has more direct responsibility for statistical co-operation. In other cases, much of the work is sub-contracted to semi-private institutions.

Another form of bilateral assistance which is beginning to emerge is technical co-operation among developing countries (TCDC). In the form of direct bilateral arrangements, it is still fairly small, but it is notable that there is an increasing number of experts from developing countries undertaking UN and other assignments. The point of interest is that it is no longer necessary to rely completely on the traditional sources of expertise.

The institutional arrangements outlined above lead to two problems in the field of statistics. The first is co-ordination. When a number of different agencies are providing assistance and their programmes are formulated independently, the result at national level can be a less-than-integrated package of aid. This is probably not a serious difficulty in the case of bilateral co-operation because donors usually have their own groups of target countries, but it can be serious with respect to multilateral assistance and there is also some lack of co-ordination between multilateral and bilateral efforts.

The UN Statistical Commission has kept the question of co-ordination under review for a considerable time and the UNSO compiles and publishes information on the programmes of the principal agencies. There has been some improvement but there remains the need to consider the requirements of individual countries for statistical co-operation in a more integrated manner. How should this be achieved? Donor agencies could certainly exchange more information on their proposed programmes of assistance, possibly with the UNSO serving as a central clearing house, but the main initiative will have to come from recipient countries. They must have statistical development programmes, preferably incorporated in their national development plans, which give comprehensive statements of their needs.

The second problem for statistics arises from the use of indicative planning figures in formulating programmes of assistance at national level. Both recipient governments and donors tend to have a preference for more visible and prestigious projects, so statistics receives low priority. The underlying causes of the problem and the means of rectifying it are discussed later in the paper.

## COMPONENTS OF TECHNICAL CO-OPERATION

Having looked at the nature of technical co-operation in statistics and the means of providing it, there should now be an equally short examination of its components. This is presented in the following sections.

Training: Training has always been one of the most popular components of statistical co-operation, with respect to both donors and recipients. Most projects contain an element of training and training itself is the single objective of many projects. These specialised projects include short workshops, in-service training and institutions giving courses at middle, undergraduate and post-graduate levels. A great deal of statistical training is still undertaken outside the developing regions, but each of these regions has one or more of its own training projects, e.g. the Inter-American Statistical Institute (CIENNES), Santiago, the Arab Institute for Training and Research, Baghdad, the Statistical Institute for Asia and the Pacific, Tokyo, the Indian Statistical Institute, Calcutta, and the Statistical Training Programme for Africa. The last of these projects is different from the others in that it comprises 15 member centres, all but one of which are in the region.

Recent conclusions on the provision of statistical personnel indicate that training up to and including the middle level should become a national responsibility where this is not already the case and that the regional projects should become self-reliant with respect to staff, student fellowships, etc. as soon as possible. Self-reliance of this kind raises problems of financing, particularly where a number of countries are expected to contribute to the upkeep of a centre. Lack of umbrella institutions, such as inter-governmental organisations with reliable independent sources of finance, is one cause of this funding constraint. It is notable that many of the centres in Africa still rely heavily on external support. In general, it is the financing of training projects which is of most conern;there appears to be no special difficulty in maintaining satisfactory teaching standards.

The training elements of other technical co-operation projects, such as censuses, surveys and economic statistics, are normally included in the project budgets and the training is of course of a specialised nature. Such arrangements are often necessary and they certainly contribute to statistical development. However it is worth noting that it is sometimes difficult to schedule training within a given project period without disturbing the work on the project itself. It would be better if any need for training of long duration could be forseen and implemented in advance.

There are two other general points relating to statistical training. Firstly, one of the reasons for the large scale of the programme in Africa is the continuing loss of professional staff from national statistical services to other branches of government and the private sector. It is not known whether other regions are affected in the same way, but the matter is considered in more detail later in this paper. Secondly, there is still a notable tendency for training in statistics to be over-academic, although admittedly the position is improving. It arises from the traditional nature and background of teaching staff and from the association of the training with university activities, particularly in English-speaking countries. In Africa, an effort is being made to overcome the problem through the preparation of guide syllabuses which also help to standardise the content and level of teaching.

Expert Services: It will have been seen from the discussion earlier in this paper that the provision of expert services is the largest component of statistical co-operation. These services are made available through long-term country experts, regional and inter-regional advisers, short-term consultants and the regular staff of international and bilateral agencies. Table 1 and 2 show that, among these kinds of assignment, those of country experts are by far the most numerous. As already noted, the provision of country experts can be regarded as a continuation of the previous colonial practice of assigning statisticians to dependencies. The method is operationally simple and it can be of significant help to short-staffed statistical services. The question of whether experts are assigned to advise or assist more directly in statistical work is not considered here. Most experts find that they have to do both.

Nevertheless, country expert services have some disadvantages. They are expensive and there is a shortage of funds for technical co-operation following the recent global recession and inflation, not to mention the arms race, drought relief, etc. As already pointed out, the number of assignments fell sharply between 1978 and 1983. When an assignment ends, the work sometimes also stops if proper counterparts have not been trained by the expert. It is sometimes difficult to find people of the right calibre and with appropriate experience to serve as country experts, e.g. the African Census Programme which placed a great strain on the supply of demographic statisticians, and the general shortage of national accountants. Also there have been a few experts who have been more interested in continuing their employment for as long as possible than in completing their assignments efficiently.

The regional and inter-regional advisers of the UN system and similar experts of other agencies can in many ways be regarded as an alternative to the use of country experts. They operate mainly on the basis of short country visits, contribute to the development of statistical methodology and participate in training activities. The method has some clear advantages. It is relatively inexpensive because more countries can be served by a smaller number of people. The advisers gain a more comprehensive knowledge of the areas in which they are working and technical and practical arrangements which prove effective in one country can more easily be introduced in other countries. This kind of technology transfer is much less evident in the case of country expert assignments.

Regional and inter-regional advisory services are particularly useful for countries which already have some experience in the subject fields concerned and can readily absorb the advice given during short visits. They are also useful for smaller countries which need help at a lower level of sophistication. In general, it is necessary for visits of either kind to be repeated at fairly regular intervals. In Africa, the method has worked well for population censuses and surveys, civil registration and national accounts. It has proved useful in the broader area of statistical organisation. Effective results have also been produced in assistance to household survey programmes, but in this case the timing of visits is more critical as they have to take place when basic decisions are about to be made, or when they will be most useful in preventing technical and organisational mistakes.

There is no reason to suppose that the impact of regional and inter-regional advisory services in other developing regions has been different from that in Africa. More extensive use of these services can therefore be considered as a possibility for employing technical co-operating resources in a more cost-effective manner, with the reservation that the needs for assistance in particular subject fields and countries must first be examined on an individual basis and the timing of visits has to be agreed with countries well in advance. In any case, provided the advisory staff is good, countries like the arrangement because they do not have foreign experts continuously watching their activities. They have, instead, a better incentive to organise their own efforts in a way that will ensure effective project implementation.

Consultancy services are similar to those of regional and inter-regional advisers only in that they involve short visits or assignments. Ideally they should be used only when some special kind of expertise is needed, or when there is a gap in the ongoing arrangements for co-operation. Nevertheless statistical consultancies are beginning to play a significant role. In this connection it should be noted that the figures on consultancies in Tables 1 and 2, which refer to short-term assignments of various kinds, ought not to be taken at their face value. This is because of a considerable variation in the reporting practices of agencies, e.g. the United States appears to give details of all short-term assignments, whereas the Economic Commission for Africa indicates only the number of regional advisers available and does not report on specially appointed consultants or the missions of regular staff. In general, it is difficult to distinguish between the activities of regular staff and short-term consultants in the records available. In spite of the indeterminate nature of the information, it is clear that short-term assignments are an important component of overall statistical co-operation. This perhaps adds a little, but not very much, more weight to the idea that long country assignments should be replaced by short and repeated advisory visits wherever practicable.

Except for the inclusion of regular staff activities by some agencies, all the foregoing comments relate to the services of experts specially appointed to assist statistical development, namely at national level. The work of regular agency staff, on which no comprehensive information is available, is itself also a significant component of statistical co-operation,. It covers the programming of agency activities, together with advice on topics such as statistical organisation. In addition, regular staff participate in specific projects in a way which is intended to complement or fill gaps in the services provided by regional advisers, country experts, etc. The extent of regular staff participation may differ somewhat between agencies, but it is significant and is a further indication of the need for frequent short assignments, i.e. continuing contact with the countries served.

There have been two background thoughts in writing this sub-section of the paper. The first is that any statistical service, however small, can develop a basic work programme which it is sure to implement. Further expansion probably requires technical co-operation, but the arrangements for such external assistance have to be closely related to the basic work programme. More will be said on this topic later. The second thought concerns an obvious requirement. The UNSO has already done a good job in compiling information on the expert services of principal agencies. It should be very useful indeed if more COMPREHENSIVE records could be achieved on the basis of a standardised reporting system.

Equipment and supplies: Not all technical co-operation projects call for a significant input of equipment and supplies, but there are some kinds of project in which these items are important. The projects are mainly censuses and surveys which involve extensive field operations at national level and also a considerable bulk of data processing. The principal items normally requested in a co-operation package for such projects are vehicles, cartographic equipment, computers, supplies of stationery for printing forms, manuals, etc and a host of related miscellaneous items.

Vehicles very often give rise to problems. They are put to non-project uses and have an exceptionally short life. Although drivers are skilful in negotiating rough roads and terrain, they frequently do not have a good understanding of gears and four-wheel drive. Other factors which seriously reduce vehicle life are lack of maintenance and overloading. The compounds of some African statistical offices are a grave yard of unserviceable cross-country and other vehicles. Among the considerations in this connection is the possibility of using alternative local transport for at least some of the work. Sometimes better results can be obtained if staff of the national statistical service own the vehicles they use and operate them with transport allowances. However the main requirements is certainly better training of drivers and supervision of vehicle use and maintenance.

The other main point of concern relating to equipment is data processing which, in African experience, is the largest single bottleneck in statistical operations. The position is improving slightly with the advent of micro computers, but the general position is that a great deal of follow-up support is necessary if data processing is to be performed satisfactorily. This includes not only finding solutions to equipment problems and installing software but also assisting in the basic organisation of the work. Much of course can be done by countries themselves to ensure a better balance in workloads between data collection and processing.

Local Finance: Technical co-operation project do not normally make provision for the financing of local costs. However the item is relevant, at least in Africa, because of the arrangements adopted for the African Census Programme in the earlier part of the 1970s. The programme was established to assist census operations in 22 countries which had never before taken a complete population census. UNFPA agreed to contribute to the enumeration costs and also to pay honoraria to some statistical service staff with special census responsibilities. This tended to create a precedent which countries have since tried to maintain and it has led to project formulation difficulties in other subject areas, particularly household surveys. Large expenditures of this kind clearly need to be avoided in the future.

In addition, it has to be noted that some supporting project personnel, e.g. administrative staff, are sometimes recruited locally and paid from the external component of the project budget. Such expenditure is small and will probably need to continue because it is an economical way of dealing with limited aspects of the work.

Methodology: The provision of methodological guidelines, including standardised concepts, definitions and classifications, is a major component of technical co-operation in statistics. It includes the technical publications of the UNSO, similar documents provided by the specialised agencies, the adaption and sometimes extension of these guidelines by the UN regional commissions, plus a considerable amount of material produced by bilateral agencies and other institutions. The guidelines are needed to make statistical operations as effective as possible in the light of collective experience and to ensure international comparability of data. Similar efforts are now being made in the fields of data processing and information technology.

At this point, there is just one comment to be made about the methodological guidelines so far developed. The guidelines, particularly those produced by the UN system, are normally confined to data collection, processing and tabulation. Only in the case of demography are guidelines available on data analysis, Data applications in all subject fields are dealt with only in very broad terms. It will be seen later in this paper that analysis and applications are two of the main links between data producers and users and that they are an essential consideration in formulating effective statistical programmes. There is therefore a need for the extension of statistical guidelines to include these two aspects of the overall process of obtaining and using data.

Distribution of Resources Among Components: The foregoing notes have given a brief overview of the components of technical co-operation in statistics. It would be very useful to know precisely how resources are distributed between these components, but unfortunately there appears to have been no systematic analysis of project records that would provide this information. It can be said that training and the provision of expert services are the two main inputs to statistical activities in the field. The development of methodology also absorbs considerable resources, but is of a different nature from the other components because it is carried out mainly at agency headquarters. In another paper for the session on statistical co-operation, a few major statistical projects are discussed. For these projects, some information is available on the distribution of assistance by type and it may to some extent offset the lack of comprehensive data.

SUBJECT PRIORITIES AND SOURCES OF EXPERTISE

Probably the best indication of subject priorities in statistical co-operation is given by the fields of activity of the experts involved. This information is given in Tables 1 and 2 and it can most easily be considered in terms of the main groups of subjects. The percentage distribution of all assignments summarises in the following way:

| | 1978 | 1983 |
|---|---|---|
| Statistical organisation and training | 16 | 18 |
| Economic statistics | 31 | 26 |
| Demographic and social statistics | 32 | 26 |
| Sample surveys | 7 | 11 |
| Data processing, including informatics | 14 | 19 |
| | 100 | 100 |

Bearing in mind that the number of assignments was reduced by about one quarter between 1978 and 1983, the changes in the distribution nevertheless show increasing priority for statistical organisation and training, sample surveys and data processing, with reduced priority for economic statistics and demographic and social statistics.

The changes reflect comments already made in this paper. Statistical organisation in many countries needs urgent attention. Training has to compensate for loss of staff, as well as contributing to the strengthening of statistical services. Sample surveys are of increasing importance in producing adequate surveys are of increasing importance in producing adequate information on household sectors and for other purposes; the change in this case also reflects the efforts of the National Household Survey Capability Programme, its regional components and other related activities. The data processing problem appears to be far from a solution in spite of a proliferation of new and cheaper equipment and is retarding entire statistical programmes. Thus all the relative increases in priority appear to be fully justified. On the debit side, the reduced share of demographic and social statistics is understandable. A great effort was made in the demographic field in the 1970s and countries now have some expertise in this area. The change also reflects smaller contributions to UNFPA and a somewhat lower level of WHO activity, which can be seen in Table 3.

The reduced share of co-operation allocated to economic statistics, including national accounts, is less understandable. From the figures in Tables 1 and 2, it seems that the total number of assignments fell by nearly a third in the period 1978-83. Yet it is the economic situation of the third world that is one of the main global concerns at the present time. Technical co-operation in economic statistics clearly does need rather careful thought.

Regarding the global distribution of co-operation in statistics, Tables 1 and 2 suggest that Africa may be receiving about half the total amount and that it is oriented more strongly to basic requirements. African countries gained independence considerably later than most of those in other developing regions, but this ought not to be the full explanation of the large difference.

The sources of statistical expertise are shown in Table 3 by agency and by nationality of the experts. As noted earlier, the figures have to be used with caution because they are certainly not complete and there are important differences between agencies in reporting the information. The UN and its specialised agencies are responsible for a large proportion of the expert assignments. France, the United Kingdom and the United States are predominant in bilateral assistance and there is increasing Canadian activity. Table 3 also shows that most of the 1978-83 reduction in statistical assignments is attributable to the United Kingdom, France and WHO.

It is not the purpose of this paper to discuss the nationality distribution of experts, but there is one point of note in Table 3. About one quarter of the assignments recorded in 1983 were undertaken by people from developing regions. All were organised within the UN system, but they do indicate a growing amount of expertise in developing areas and perhaps hold some hope for technical co-operation among developing countries (TCDC) in statistics.

EXPERIENCE TO DATE

Although the preceding section of this paper have drawn attention to many possibilities for improving technical co-operation in statistics, particularly in making it more cost-effective, the general conclusion should clearly be that there has been a good effort on the part of all the agencies concerned. Moreover the work has been systematically maintained over a long period. Nevertheless its impact at national level has not always been satisfactory. It is therefore now necessary to consider improvements that may be required in recipient countries, so that they can make better use of statistical co-operation. The following remarks are based on a review of African statistical services and may not be fully relevant to conditions in other regions. It should also be understood that there is considerable variation in statistical development between countries and many do not suffer from all the constraints metioned..

There appears to be a strong relationship between statistical performance and the nature of national planning activities. When statistical output is low, countries find it necessary to adopt a non-technical form of planning. This itself leads to a low demand for data and reduces the incentive to develop statistical services. Another aspect of the link between planning and statistics, which also adversely affects statistics, is lack of attention to data analysis. Proper analysis necessarily involves both data users and producers and it improves the co-ordination of these two groups of people in addition to making statistics easier to use.

However, it is not sufficient to regard data analysis as the essential link between data producers and users. It is necessary to go one step further and look at data applications. If there is a clear idea of how quantitative information will be used, it becomes easier to organise data collection, processing and analysis in an effective manner.

A further point is that, in some countries, it is clear that available statistical resources are not fully utilised. This means that there is a management problem in statistical services which requires urgent attention. Arising from this situation, there is also a secondary problem. Central banks, planning and other agencies have tried to overcome the shortfall in output from statistical services by setting up their own statistical operations. The result can be a fairly serious duplication of effort.

The African review identifies the main constraints on statistical development as follows: a generally low priority given to statistics; the use of pragmatic planning methods, which themselves are not producing satisfactory results and lead to a low demand for data; a consequent brain drain from national statistical services which, at senior level, causes management weaknesses; underutilisation of available resources, which is the main reason for late delivery of statistics; insufficient contact between heads of statistical services and other government agencies, which contributes to low priority for statistics in both government budgets and programmes of external assistance; a serious data processing bottleneck which affects many countries; and lack of guidance on data analysis and applications in international statistical recommendations. Action to overcome these constraints is the responsibility of three separate groups: the government, the national statistical service and international agencies. Details of the action required follow from the constraints themselves.

At governmental level, the requirements are: greater emphasis on the identification of data applications, to provide a satisfactory basis for organising data collection and analysis; adequate training of statisticians and provision of a good working invironment: provision of data processing facilities and other supporting resources for statistical operations; the establishment of a statistical development programme, as a component of the national development plan, to show not only the statistical objectives and means of achieving them, but also serve as a basis for monitoring statistical performance; and introduction of a systematic and technical approach to planning, which also has implications for the training of planners.

Action needed by the statistical service itself includes: operation in collaboration with a national statistics committee responsible for co-ordination between data producers and users and the preparation of the statistical development programme; timely production of outputs through better management of available resources and the preparation of annual work programmes within the conext of the statistical development programme' and increasing involvement of statisticians in computerised data processing in order to reduce existing delays.

The action needed by international agencies has been mentioned earlier in this paper and, although important, is not relevant to the discussion in the present section. At the national level, it is clear that any of the problems enumerated above, particularly those relating to management of available resources and government interest in statistics, can seriously affect the ability of a statistical service to make effective use of technical co-operation. Internal problems therefore have to be dealt with at the same time as arrangements are made for external assistance.

Donor agencies are certainly aware of such problems, but their reaction has been either to give no assistance at all, or to take the risk that the problems will not affect particular projects. There seems to have been no real effort on the part of donor agencies to incorporate the solution of internal problems in statistical co-operation arrangements. In the kind of situation found in Africa, this may be the underlying reason why very significant external inputs to statistical development have not achieved their full impact. It also points to a further means of making statistical co-operation more cost-effective and the possibilities are discussed in the next sections of the paper.

An examination of the comments in this section of the paper has brought to light one further thought: the statistical services of very small countries may not be strong enought to implement the kind of action suggested in paragraph 57 above and should therefore operate under the umbrella of a larger institution. The viability of this contention is of course dependent on the circumstances in individual countries, but a few relevant considerations can be mentioned. It is desirable to maintain the independence and impartiality of a statistical service to the extent possible. The umbrella institution usually chosen is the planning ministry, which may have a less influential status in the governmental structure than the ministry of finance or central bank. Also, the action proposed calls for a business-like approach to statistical organisation, rather than any high level of professional expertise or specialisation. Under suitable conditions and leadership, a small statistical service can remain independent and produce good results.

FUTURE REQUIREMENTS AND PROSPECTS FOR TECHNICAL CO-OPERATION

It is clear from what has been said in this paper that there will be a very real need for technical co-operation in statistics for a considerable time to come. It is also clear that the actual requirements are somewhat greater than the amount of assistance now being provided.

Unfortunately, it will be difficult to increase spending on sstatistical co-operation for the two reasons already stated: recipient governments give statistics an unduly low priority in their programmes of external assistance and donor agencies are now short of funds. The former is an internal problem for individual countries and something can be done about it by taking action along the lines suggested. Nothing can be done about the latter until developing countries demonstrate better ability to handle their own affairs, nor only in statistics but in all areas of activity. Donors are obvioully not willing to incur continuing heavy expenditure unless there is reasonable prospect that it will produce results.

On the credit side, it can be said that existing arrangements for statistical co-operation are not too bad because they have been developped through many years of experience. There are also ways of making them more cost-effective and the apaper contains a number of suggestions which should be regarded not as general principles but as methods of delivering statistical assistance in a selective manner with respect to both subjects and countries.

In addition, it should be noted that large, fully co-ordinated projects like the African Census Programme and the National Household Survey Capability Programme generally have greater impact than the provision of single country experts on an ad hoc basis. Such programmes need not be unduly expensive if they cover a sufficiently large number of countries and if the countries themselves are prepared to bear the major part of local costs.

It was suggested in passing that there are prospects for TCDC in view of the significant proportion of statistical experts now supplied by developing regions. The problem in this connection is: who should pay for them? The i idea begins to emerge that developing regions could and should foot part of the bill for statistical co-operation.

Obviously there is a great deal that can be done to make technical co-operation in statistics more cost-effective within the overall context of ensuring that the third world takes its proper place as a full partner in all global economic and social affairs. The suggestions made in this paper are summarised in the concluding section.

However it is still necessary to discuss the rather delicate issue which was raised in the preceding section of the paper: how can external assistance be given effectively to national statistical services which are not making the best use of available resources as the result of a management problem? The simple solution in some cases could be the appointment of a better manager, but it is also possible to answer the question in a more specific manner. An examination of paragraphs 56 and 57, which deal with the action needed by governments and national statistical services to improve the availability and use of statistics, indicates one basic requirements: the proper programming and monitoring of statistical activities. The final suggestion to be made in this paper is therefore very simple and straightforward. All arrangements for

technical co-operation in statistics should be specifically related to the existence of viable and monitored work programmes in the national statistical services concerned. Application of this requirement will be embarrassing for both donor agencies and recipients, but it will greatly reduce wastage in current technical co-operation efforts.

SUMMARY OF CONCLUSIONS

A number of proposals for the improvement of statistical co-operation have been discussed in this paper. The main items are summarised in the following list:

- There is a notable shortage of information on technical co-operation statistics. For the planning of future efforts in this field, a central agency, possibly the UNSO, should undertake to compile more comprehensive data for analytical purposes.

- The incomplete data available suggest that there was a significant decrease in the number of statistical expert assignments between 1978 and 1983. The introduction of more cost-effective arrangements for statistical co-operation is therefore important if all requirements for assistance are to be met.

- The two immediate objectives of statistical co-operation are to assist the development of statistical infrastructure and the production of subject-specific statistics. Co-operation projects which deal with single subjects should be organised in the context of national statistical development programmes to ensure that they have full impact. All statistical co-operation activities should be regarded as a contribution to the long-term aim of self-reliant and sustained development.

- One of the main problems in organising effective statistical co-operation is inter-agency co-ordination. The UN Statistical Commission is trying to improve the situation by encouraging the exchange of information on agency programmes, but countries themselves can do much to ensure that they receive well-balanced assistance by having it organised in the context of national statistical development programmes, which should preferably be included in their national development plans. Agency use of country ceilings - IPF's in formulating programmes of technical co-operation tends to result in low priority for statistics because of preference for more visible and prestigious projects.

- Training remains one of the most important forms of statistical co-operation. At the middle level, it can be expected to become a national responsibility. The problem is to ensure that higher level centres offering regional services become financially self-reliant without undue delay; this is difficult in the absence of umbrella institutions with reliable independent sources of finance.

- When training is included as a component of a subject-specific project, it is often not easy to send people for training within the project period without adversely affecting the progress of the project. It is therefore desirable to forsee all training needs well in advance.

- Two other considerations with respect to training are its function in replacing professional staff who move to more attractive employment, which happens when conditions in national statistical services are not satisfactory, and the requirement that training should be oriented along practical lines, which can be encouraged through the preparation of guide syllabuses.

- While it is acknowledged that long-term country experts have made a significant contribution to statistical development, consideration should now be given to the greater use of regional advisory services, operating through short, repeated visits. In a situation where there is a shortage of funds for technical co-operation, regional advisers can be a more cost-effective way of providing technical expertise, but their work has to be programmed well in advance in full agreement with the recipient countries.

- In technical co-operation projects which include the provision of equipment, the items which have given rise to most problems are vehicles and computers. It is necessary to ensure that vehicles last longer and that computer equipment is efficiently used.

- Except in very special circumstances, technical co-operation projects should not include a contribution to local costs. This is an item which recipient countries should be prepared to pay themselves.

- The provision of methodological guidelines is a major component of statistical co-operation and the UNSO has a particularly good record in this respect. However the guidelines now need extending to data analysis and applications, to facilitate the work of data users and to guide the formulation of statistical programmes.

- Among the various subject fields, there is increasing priority for co-operation in statistical organisation and training, sample surveys and data processing. Demographic statistics is receiving less attention after the great effort made during the 1970s. Economic statistics, although still one of the predominant areas for assistance, also appears to be receiving less priority. The special consideration given to economic statistics stems from the fact that the economic situation of developing countries today is one of the principal global concerns at the present time.

- In view of the increasing number of persons from developing countries undertaking assignments as experts, effort should now be made to establish direct bilateral arrangements for assistance, i.e. technical co-operation between developing countries.

- Regarding the capacity of countries to use statistical co-operation, the most relevant consideration is the interaction of statistics and planning. Low statistical output leads to non-technical planning, which in turn perpetuates a low demand for data. This deadlock has to be broken for technical co-operation to make progress.

- As already noted, factors which contribute to poor performance in statistics and planning are lack of attention to data analysis and the absence of a conscious effort to identify the main data applications. In addition, management problems lead to under-utilisation of available resources and result in late delivery of data. Such problems severely reduce confidence in some statistical services.

- At the national level, action to remove the constraints on statistical development has to be taken by both governments and the statistical services themselves. The main requirements are summarised in paragraphs 56 and 57. They place emphasis on due priority for statistics, the proper planning and monitoring of activities and the use of national statistics committees.

- It has been suggested that action along the lines proposed might place an undue burden on the statistical services of very small countries. There should be no danger in this connection because the requirements concern a businesslike approach to activities, rather than sophisticated or specialised statistical arrangements.

- There will be a continuing need for statistical co-operation in the future, but there is little propsect of increased expenditure by donors because many developing countries have failed to inspire external confidence in their activities. As already indicated, it is therefore increasingly important that arrangements for technical co-operation should be cost-effective. Large, co-ordinated projects covering a number of countries have some advantages in this respect.

- There is a growing feeling that donors should insist on adequate performance by the recipients. The most obvious way of achieving this is to make assistance contingent on the existence of viable and properly monitored work programmes in the statistical services concerned.

ANNEX

Subject Code Used in Tables

ECONOMIC STATISTICS

1. Statistical organisation
2. Training
3. Economic statistics
4. National accounts
5. Industrial statistics
6. Trade statistics
7. Agricultural statistics
8. Price statistics
9. Transport statistics

DEMOGRAPHIC AND SOCIAL STATISTICS

10. Demographic and social statistics
11. Population census and surveys
12. Cartography
13. Civil registration
14. Social statistics
15. Labour statistics
16. Educational statistics1
17. Health statistics

OTHER STATISTICAL ACTIVITIES

18. Sample surveys
19. Mathematical statistics
20. Data processing, including informatics
21. Volunteer, etc. n.e.s.

KIND OF ASSIGNMENT

L. Country expert type of assignment, normally of long duration

S. Short assignment of less than three months, including consultancies where reported.

Table 1: Statistical Assignments in 1978

| Subject | Country assignments | | | | | | | | | Regional and inter-regional assignments | | | | | All assignments | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Asia & Pacific | | Africa | | Latin America | | Western Asia | | Other | Asia & Pac | Afr. | Lat. Amer. | West Asia | UNHQ etc. | | | |
| | L | S | L | S | L | S | L | S | | | | | | | L | S | Total |
| 1 | 7 | - | 18 | 1 | 2 | 6 | 4 | 1 | 1 | - | - | - | - | - | 32 | 8 | 40 |
| 2 | 11 | 2 | 34 | 1 | 1 | - | 8 | - | 1 | - | - | - | - | - | 55 | 3 | 58 |
| 3 | 7 | 2 | 21 | 2 | 7 | 6 | 4 | 1 | - | - | - | - | - | - | 39 | 11 | 50 |
| 4 | 3 | - | 16 | 6 | 8 | 2 | 2 | 2 | 1 | 1 | 1 | - | - | - | 32 | 10 | 42 |
| 5 | 1 | - | 1 | - | 2 | - | 2 | - | - | - | - | - | - | - | 6 | - | 6 |
| 6 | - | - | 2 | - | 2 | 1 | 2 | - | - | - | - | 1 | - | - | 7 | 1 | 8 |
| 7 | 5 | - | 38 | 1 | 5 | 3 | 3 | - | - | - | - | - | - | - | 51 | 4 | 55 |
| 8 | - | - | - | - | - | 1 | 1 | 1 | - | - | - | - | - | - | 1 | 2 | 3 |
| 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 2 | 1 | 15 | - | 2 | - | 2 | - | - | 1 | 7 | 1 | - | - | 30 | 1 | 31 |
| 11 | 8 | - | 13 | - | 1 | 3 | 2 | - | - | 1 | 2 | 1 | 1 | 1 | 30 | 3 | 33 |
| 12 | 1 | - | 4 | - | 3 | 1 | 2 | 1 | - | - | - | - | - | - | 10 | 2 | 12 |
| 13 | 2 | - | 1 | - | - | - | 2 | - | - | 1 | 1 | - | - | - | 37 | - | 37 |
| 14 | 2 | - | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 55 | 2 | 7 |
| 15 | 1 | 1 | 4 | 5 | 4 | 1 | 1 | 1 | - | - | - | - | - | - | 10 | 8 | 18 |
| 16 | 2 | - | 4 | - | 2 | - | - | - | - | - | - | - | - | - | 11 | - | 11 |
| 17 | 13 | - | 9 | - | 15 | - | 2 | - | 12 | - | - | - | - | - | 51 | - | 51 |
| 18 | 2 | 2 | 6 | 1 | 4 | 11 | 4 | 1 | - | 1 | - | 1 | - | - | 18 | 15 | 33 |
| 19 | - | - | - | - | 1 | 3 | - | - | - | - | - | - | - | - | 1 | 3 | 4 |
| 20 | 13 | 1 | 26 | 2 | 6 | 9 | 16 | 1 | 1 | - | - | - | - | - | 63 | 13 | 76 |
| 21 | - | - | - | - | 1 | - | 1 | - | - | - | - | - | - | - | 2 | - | 2 |
| Total | 80 | 9 | 214 | 20 | 67 | 48 | 61 | 9 | 16 | 5 | 11 | 4 | 1 | 2 | 461 | 86 | |
| Total L & S | 89 | | 234 | | 115 | | 70 | | 16 | 5 | 11 | 4 | 1 | 2 | | | 547 |

Table 2: Statistical Assignments in 1983

| Subject | Country assignments | | | | | | | | | Regional and inter-regional assignments | | | | | All assignments | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Asia & Paci. | | Africa | | Latin Amer. | | Western Asia | | Other | Asia & Pac | Afr. | Lat. Amer. | West Asia | UNHQ etc | | | |
| | L | S | L | S | L | S | L | S | | | | | | | L | S | Total |
| 1 | 6 | - | 23 | 4 | 3 | 1 | 1 | 2 | - | - | - | - | - | - | 33 | 7 | 40 |
| 2 | 5 | ½ | 30 | 2 | 1 | - | - | - | - | - | 1 | - | - | - | 37 | 3 | 40 |
| 3 | 4 | ½ | 8 | - | 1 | - | 3 | - | - | - | ½ | - | - | - | 16 | - | 16 |
| 4 | 1 | - | 23 | - | 5 | 1 | 2 | - | - | 1 | 1 | - | - | - | 33 | 1 | 34 |
| 5 | 1 | - | 3 | - | 2 | - | - | - | - | 1 | ½ | - | - | - | 7 | - | 7 |
| 6 | - | ½ | 3 | 1 | - | - | 1 | - | - | - | - | - | - | - | 4 | 2 | 6 |
| 7 | 5 | 4 | 26 | 1 | 2 | 2 | 3 | - | - | - | - | - | - | 1 | 37 | 7 | 44 |
| 8 | - | - | 1 | - | - | - | 2 | - | - | - | - | - | - | - | 3 | - | 3 |
| 9 | - | - | 2 | - | - | - | - | - | - | - | - | - | - | - | 2 | - | 2 |
| 10 | - | - | 7 | - | - | - | 2 | - | - | - | 3 | - | 1 | 1 | 14 | - | 14 |
| 11 | - | - | 5 | 1 | 1 | - | - | - | - | 1 | ½ | - | 1 | - | 8 | 1 | 9 |
| 12 | 2 | - | 8 | 2 | - | 1 | 2 | - | - | - | 2 | - | - | - | 14 | 3 | 17 |
| 13 | - | - | 3 | 3 | - | - | 1 | - | - | 1 | 2 | - | - | - | 6 | 3 | 9 |
| 14 | 3 | - | 7 | - | - | - | 1 | - | - | 1 | ½ | - | - | - | 12 | - | 12 |
| 15 | - | - | 4 | 1 | ½ | - | 1 | - | - | - | - | - | - | - | 5 | 1 | 6 |
| 16 | - | - | 3 | - | 2 | - | 5 | - | - | - | - | - | - | - | 10 | - | 10 |
| 17 | 10 | - | 6 | - | 5 | - | 1 | - | 14 | - | - | - | - | - | 36 | - | 36 |
| 18 | 3 | 4 | 11 | 9 | 2 | 4 | 4 | - | - | 2 | - | 2 | 2 | - | 26 | 17 | 43 |
| 19 | 1 | 1 | 1 | - | 1 | 1 | - | 1 | - | - | - | - | - | - | 2 | 3 | 5 |
| 20 | 12 | 3 | 22 | 9 | 3 | 8 | 16 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 59 | 23 | 82 |
| 21 | - | - | - | 4 | 4 | - | 1 | ½ | - | - | - | - | - | - | 5 | - | 5 |
| Total | 52 | 14 | 196 | 33 | 32 | 18 | 46 | 6 | 15 | 8 | 10 | 3 | 4 | 3 | 369 | 71 | |
| Total L & S | 66 | | 229 | | 50 | | 52 | | 15 | 8 | 10 | 3 | 4 | 3 | | | 440 |

Table 3: Nationalities and Agencies of Experts, 1983
(with Agency Summary for 1978)

| Agency | Nationality | | | | | | | | | | | | | Total 1983 | Total 1978 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | France | Norway | Sweden | U.K. | Other Western Europe | Eastern Europe | U.S.A. | Canada | India | Other Asia and Pacific | Latin America | Western Asia | Africa | | |
| UN | 11 | 3 | 5 | 5 | 17 | 8 | 6 | 5 | 22 | 15 | 18 | 8 | 16 | 139 | 143 |
| ILO | - | - | - | - | 1 | - | - | 1 | 4 | 1 | 1 | - | - | 8 | 10 |
| FAO | 2 | - | - | 2 | 4 | 2 | 5 | - | 9 | 6 | 2 | 3 | 6 | 41 | 39 |
| UNESCO | 1 | 1 | 1 | - | 1 | 1 | - | - | 1 | 2 | 2 | 1 | 3 | 14 | 15 |
| WHO | 1 | - | - | - | 3 | 3 | 9 | - | 5 | 6 | 6 | 1 | 4 | 38 | 54 |
| U.S. BUREAU of the Census | - | - | - | - | - | - | 77 1/ | - | - | - | - | - | - | 77 | 68 |
| SIDA | - | - | 3 | - | - | - | - | - | - | - | - | - | - | 3 | 6 |
| CIDA | - | - | - | - | - | - | - | 14 | - | - | - | - | - | 14 | 2 |
| ODA, UK | - | - | - | 22 | - | - | - | - | - | - | - | - | - | 22 | 30 |
| NORAD | - | 2 | 1 | - | 3 | - | - | - | - | - | - | - | - | 6 | - |
| INSEE, France | 78 | - | - | - | - | - | - | - | - | - | - | - | - | 78 | 90 |
| Total | 93 | 6 | 10 | 29 | 29 | 14 | 97 | 20 | 41 | 30 | 29 | 13 | 29 | 440 | 523 |

1/ Of which 41 were short assignments.

Note: 1. The table shows a nationality distribution of assignments rather than experts.

2. The summary figures for 1978 exclude 24 assignments undertaken by the Inter-American Statistical Institute, for which no nationality data are available.

Table 4: Projects managed by the Department of Technical Co-operation for Development (DTCD) at United Nations Headquarters, 1983

000 US Dollars, etc.

| Region and basic data | Area of assistance | | | | | Total |
|---|---|---|---|---|---|---|
| | Statistical organization & training | Economic Statistics | Demographic and social statistics | Sample surveys | Data processing | |
| **Asia and the Pacific** | | | | | | |
| No. of projects | 6 | 1 | 20 | - | 6 | 33 |
| 1983 budget | 383 | 326 | 2,812 | - | 861 | 4,382 |
| Total budget | 1,988 | 815 | 21,253 1/ | - | 10,544 | 34,600 |
| **Africa** | | | | | | |
| No. of projects | 14 | - | 38 | 4 | 4 | 60 |
| 1983 budget | 1,895 | - | 4,836 | 793 | 444 | 7,968 |
| Total budget | 7,604 | - | 25,107 | 1,555 | 2,384 | 36,650 |
| **Latin America** | | | | | | |
| No. of projects | 1 | 4 | 10 | 2 | 2 | 19 |
| 1983 budget | 76 | 366 | 525 | 129 | 125 | 1,221 |
| Total budget | 147 | 3,367 | 4,396 | 252 | 970 | 9,132 |
| **Western Asia** | | | | | | |
| No. of projects | 4 | 2 | 14 | 1 | 6 | 27 |
| 1983 budget | 1,629 | 136 | 1,910 | 214 | 476 | 3,365 |
| Total budget | 3,624 | 440 | 11,618 | 214 | 3,077 | 18,973 |
| **Inter-regional** | | | | | | |
| No. of projects | 8 | - | 2 | 2 | 3 | 15 |
| 1983 budget | 1,560 | - | 494 | 463 | 596 | 3,113 |
| Total budget | 1,560 | - | 1,001 | 1,562 | 1,425 | 5,548 |
| **All regions** | | | | | | |
| No. of projects | 33 | 7 | 84 | 9 | 21 | 154 |
| 1983 budget | 4,543 | 828 | 10,577 | 1,599 | 2,502 | 20,049 |
| Total budget | 14,923 | 4,622 | 63,373 | 3,583 | 18,400 | 104,903 |

1/ Includes the China population census at US$ 12 mn.

# COOPERATION TECHNIQUE DANS LE DOMAINE DE LA STATISTIQUE

## RESUME

L'article essaye de donner des indications succinctes sur les principaux aspects de la coopération technique dans le domaine de la statistique et attire l'attention sur les problèmes liés à la mise en oeuvre de cette coopération et les actions à entreprendre dans l'avenir. Les données incomplètes actuellement disponibles mettent en évidence une baisse sensible du nombre d'experts mis à disposition entre 1978 et 1983.

Les activités de coopération statistique - qui comprennent deux objectifs immédiats, à savoir aider à l'amélioration de l'appareil statistique d'une part et à la production des différents types de données statistiques de l'autre - devraient être perçues comme une contribution à la promotion, à long terme, d'un développement autonome et soutenu.

L'un des aspects les plus importants de la coopération dans le domaine de la statistique est la formation. Celle-ci devrait permettre de disposer des cadres faisant défaut aux services statistiques nationaux et revêtir un caractère pratique.

S'il est incontestable que dans le passé les experts mis à disposition pour une longue durée ont apporté une importante contribution au développement statistique des pays bénéficiaires, nul doute que ces derniers doivent à présent faire un plus grand usage des services consultatifs régionaux.

S'agissant de la capacité des pays à tirer parti des projets de coopération statistique, il convient avant tout de ne pas perdre de vue les interactions de la statistique et de la planification. Il existe plusieurs moyens de surmonter les obstacles au développement statistique et d'accroître par conséquent la capacité des pays à mettre à profit la coopération en matière statistique. Parmi eux figurent une bonne planification, le contrôle des activités et le recours aux comités nationaux de statistique.

# CONTROL OF FIELD OPERATIONS IN HOUSEHOLD SURVEYS

## FIELD OPERATIONS AND STAFF

### Introduction

The execution of a household survey comprises a series of activities termed survey operations. If the objectives of the design are to be fulfilled those operations must be in reasonable accord with the designer's intentions. Concordance between execution and design cannot be assumed, and indeed will exist only if positive actions are taken to see that it does occur.

Operational control offers guidelines for establishing control programmes and techniques, within the limits of available resources, for maintaining surveillance over operations, and thus providing the needed assurance.

An overall operational control programme consists of three main sub-programmes:

(a) Control of field work;

(b) Control of data processing; and

(c) Control of tabulation, estimation and final publication.

This paper does not aim at dealing with all these three sub-programmes, but concentrates on the control of field work. The reason for this is two fold:

(i) it is in this phase of control that survey management is usually on trial, and where success or failure of the whole survey is most likely to be determined; and

(ii) the accumulated experience from the African Household Survey Capability Programme (AHSCP) shows that in many countries of the region control over field work is too often neglected or under-emphasized.

It should be stressed that if a household survey is not carefully controlled in the field, money and time will be waisted, and results will be of doubtful and unknown validity. The survey will fail to produce useful information, and may actually yield misinformation.

The objective of this paper, therefore, is to identify key aspects of the field work which should be controlled and provide guidance to survey managers in adopting techniques, contained in international recommendations on this subject, which will give assurance that performance will match intention, even though absolute guarantee is never certain and can only be approached with continuous vigilance.

The type of the survey which the reader is asked to have in mind, as control of field work is discussed in the subsequent sections, has 3 generally characteristics: (a) it is a large-scale socio-economic survey; (b) the overall plan is a probability design; (c) the data collection is handled by field staff through interviews; and (d) the survey is centrally directed, although usually supervision of data collection is exercised through several field offices.

Finally, it should be mentioned that most of the material presented here was derived from the references listed at the end of this paper.

Outline of the field operations

The principal field work procedures to carry out a household survey programme, with a brief description of each, is summarized in the following operations:

(a) Recruiting and training interviewers;

(b) Listing; and

(c) Interviewing.

In addition, the functions in the central office include such processes as making up interviewer assignments, controlling the flow of materials, editing the interviewer's work for completeness and consistency, and reporting the results of the editing.

(a) RECRUITING AND TRAINING INTERVIEWERS: It is axiomatic that any survy can be only as good as the field staff assigned to collect the data. The quality of the data therefore, depends on the ability of the persons recruited and the training they receive.

Experience has shown that the motivated worker who is trying his best will accomplish more than a person who may have inherent ability, but lacks interest or conviction in performing the task.

But spirit and good morale are not enough. The interviewer and supervisor must learn the specifics of their assignments too. They cannot do a satisfactory job until they know what to do and how to do it.

Training the interviewers is a very important aspect of the survey programme. As stated earlier, the quality of the information they collect largely determines the quality of the data tabulated from the survey.

Duration and intensity of training and testing will vary with the initial experience of trainees and the complexity of the tasks.

In general, interviewer training can be divided into three types, each of which serves a distinct purpose. First is "initial training" which provides the interviewer with the basic knowledge required to conduct the survey. After they get started in their work, the interviewers are periodically given "refresher training". As the name implies, the purpose of refresher training is to maintain a level of competence. Third, there is "remedial training" which serves to correct misunderstanding and to strengthen weak interviewers. It should be noted that refresher and remedial trainings are part of the control of the field work programme.

While training is generally directed towards interviewers, it is equally important that the field supervisors, editors, and others who work on the survey programme be trained both in concepts and procedures.

(b) LISTING: Listing is the recording of the specific address of each housing unit in an area designated on a map as the listing area. From the list of housing units, a sample is selected for interview. Thus, it is used as the sampling frame for the selection of the sample of households to be interviewed.

The interviewers must understand the need to keep the procedures used for selecting the sample strictly to the objective. It should be emphasized, through frequent repetitions during the training, that so far as the field staff is concerned the sample is sacr sanct. It will be useful, therefore, for the field staff to have at least an elementary understanding of what a sample is. This will help them to appreciate the need to adhere to the sampling plan strictly.

(c) INTERVIEWING: The interviewing procedure involves asking questions of the household members and filling questionnaires. When the listing records are received in the central office, a sample of addresses will be selected by the sampling technician. The units selected will be interviewed for data. Usually, the date for interviewing a particular segment is determined by the central office. The interviewer is informed of the date when he receives his monthly assignment; he should complete the interviewing as scheduled. The field supervisor should follow up on interviewers who do not complete their assignments on time.

Management structure and responsibilities of the field staff

(a) STAFFING: Any statistical organization which uses personal interviews as the method of collecting information requires a field staff. Such field staff is made up primarily of interviewers and field supervisors. Most large surveys should also provide for the posts of a survey manager and an assistant for field operations.

(b) SURVEY MANAGER: The survey manager must keep in close contact with the field work, even if there is an assistant for field operations. Many errors of interpretation at the report-writing stage can be avoided if the survey manager has witnessed and participated in all stages of data collection. It is no good assuming that instructions will have been correctly carried out. There is a high chance that the instructions will have become confused at some point in the chain.

The authority of the survey manager is often required on the spot to rearrange timetables, to relocate staff and transport, and to solve difficulties with local officials that threaten the survey. The knowledge that the survey manager is accessible, that he will respond readily to requests for help and a visit, when he visits the field, he is likely to stimulate effort and willingness to work. The good survey manager is like the good commander: he has the qualities that make his staff to succeed in the face of difficulty.

We stress that these activities are not optional extras to be engaged in if and when time permits. The survey's manager attention to all these points is a prerequisite of a well conducted survey culminating in a valid and important report. The survey manager who retires to the central office at the end of the training courses and waits for data to flow in will not run successful surveys.

(c) ASSISTANT FOR FIELD OPERATIONS: The duties related to the post of an assistant for field operations will be carried out by one senior statistician from the Household Survey Section. His primary function will be to co-ordinate the activities of the field supervisors and interviewers with those in the central office of the national statistical service. In addition, he will be responsible for solving any problems referred to him by the supervisors or the interviewers.

The person selected to perform these duties should have some prior experience with field work and with control of such operations. Moreover, he should have patience and tact since field operations will have to be co-ordinated with subject matter and sampling requirements.

(d) FIELD SUPERVISORS: Supervisors are the prime link between personnel who work in the field and the central office. Persons selected as field supervisors should have a basic knowledge of statistics and data collection techniques. In addition, they should be willing and able to travel since they will usually be required to cover considerable distances to observe interviewing, conduct interviews, and work on various problems associated with field operations.

The supervisors will also be required to observe the interviewers while they are interviewing or listing, correct their errors, and retrain them on concepts and procedures which they fail to grasp. In addition, the supervisors will be required to reinterview a sample of the same households which the interviewers visited.

These various duties indicate that the supervisor must be a rare combination of statistician, teacher and diplomat. While this combination may be difficult to locate, the success of the operation may depend on finding persons with these qualifications.

(e) INTERVIEWERS: In some respects, interviewers must have the same qualifications as supervisors. They must be able to read maps, do arithmetic computations, understand somewhat complex concepts, and above all to be diplomatic and resourceful.

At the same time, the interviewer should also be able to command a certain amount of respect. This is not to suggest that the interviewer should act like a policeman demanding information under penalty of law; on the contrary, gentle but firm persuasion generally elicits more accurate answers.

(f) CONTROL CLERK: The control clerk assigned to the household survey programme will be responsible for assembling the materials for interviewer, and supervisor assignments, controlling the flow of materials to and from the field supervisors and interviewers, performing completeness checks of incoming materials, and maintaining the files of correspondence. In addition, the control clerk will record problem referrals, route them to the appropriate person, and maintain a file of these problems for the use of the subject matter specialist in the central office.

He will also be responsible for the control of materials to and from other divisions in the national statistical service as the Data Processing Division etc.

## CONTROL PROGRAMME OVER FIELD WORK

### Control plans

In planning for the field work, some of the matters which must be considered are the organization and administration of the field staff, and control of the field work. In each of these areas, there are many considerations and alternatives which should be examined before final decisions are reached. Many of the decisions will necessarily be compromises in order to satisfy varying requirements. As a general rule, however, compromises should be made in the direction of obtaining accuracy, rather than convenience.

The administrative procedures for which control plans must be made are the following:

(a) Supervision of the interviewer's work; and

(b) Development of a flow plan and accounting procedures for basic survey documents.

Each of these areas is discussed in the following sections.

Supervision of the interviewer's work

A basic principle of psychology is that behaviour which is not reinforced tends to become extinct. Therefore, the need for instituting an effective control of the work of interviewers must be emphasized.

The system will include, in addition to retraining the personnel, such measures as periodic observation of the interviewers by supervisory personnel, reinterviewing by supervisors of a sub-sample of the work of each interviewer, and inspection of returns.

(a) GENERAL CONSIDERATIONS: Before describing in detail the main tools of field control, namely, the reinterview and observation, it might be useful to consider also some other aspects of the field work that they need particular attention.

- Lines of authority and moral: Lines of authority and supervision must be both clear cut and firm. A disciplined but happy crew of interviewers and other field staff is an absolute essential to success. Every interviewer should feel this discipline, but should also believe that the organization is not oblivious to his welfare, and does understand his problems. He should know where and how to turn for help when help is needed.

- Communication between the central office and the field: Ideally, communication between the field and the central office should: (a) be almost instantaneous, (b) allow simultaneous participation by all relevant parties, and (c) provide a permanent record, and files for future reference.

- Problem referrals: The interviewer may, on occasions, encounter situations with which he is unfamiliar. He should be encouraged to feel free to make use of a specially designed form to describe problems or explain difficult situations. All such communication forms should receive prompt attention from the central office so that the interviewer may have immediate benefit of the decision made.

- Phasing the field work: The time table for the field work must be laid down in advance and adhered to as closely as possible.

The field work plan should be reviewed regularly, preferably every 2 months, to insure that the survey manager keeps fully informed of progress and problems, and in particular of staffing needs.

- Planning interviewer assignment: In planning interviewer assignment, first the sample areas should be plotted on a map for estimating the monthly workload of each area. Then, the sample areas should be grouped into convenient assignments, taking account of distances involved, ease of travel, and local conditions.

It is important not to overload the interviewer and thereby complicate the task of data collection, particularly at the beginning of the household survey programme.

- Monitoring rates of production: Expected production totals should be established against which actual returns can be compared. If returns deviate significantly from the projected total, appropriate actions can be taken. However, overall figures are not sufficient for deciding what action to take. For this purpose one must look at individual performance. If most interviewers are meeting the schedule, and only a minority is falling behind, the action should be directed toward those not meeting expectation and the reason for their slow work should be ascertained.

If the problem is more general and few interviewers are keeping up with the production schedule, it is likely that the schedule is unrealistic. If investigation leads to such conclusions, a more realistic schedule should be drawn up as soon as possible. It is demoralizing to interviewers to reach a survey deadline when they still have large parts of their assignments unfinished.

This discussion is intended to point out the need for devising procedures that will monitor more than just the overall production rates. Detailed record keeping is needed which will allow the survey manager to pinpoint the individuals or groups who are falling behind.

(b) REINTERVIEWING-RELISTING: Reinterviewing by a supervisor is a common method of control, and it can have somewhat broader objectives in terms of checking reliability. Furthermore, interviewers may perceive reinterviews (or relistings) as evidence that the organization is interested in maintaining high standards of quality, and helping in improving their skills. Reinterviews/relistings should always be presented to the interviewing staff in this supportive sense.

The reinterview programme consists mainly of the following two points:
(a) Reinterviewing the household for information for the questionnaire; and
(b) Reconciling the original and reinterview entries.

It is important that the reinterview be conducted as soon as possible after the original interview. It is also important that the interviewer not know which households will be reinterviewed.

With regard to the relisting (sampling control coverage) it might be useful to mention the experience gained from household surveys which have been conducted in many developing countries.

It has been found that a serious source of bias is due to errors in coverage. These errors have occured at the listing stage and the problems most frequently concern the boundaries of the sample area, on the one hand, and the completeness of the listing (dwellings/households) within the area, on the other.

Careless mapping or faulty instructions are the cause of most boundary errors, ill-trained or lazy listers are the principal cause of undercoverage within accurately delimited sample areas. Therefore, greater attention should be paid to monitoring the listing operation. This is a phase of the field work typically left in the hands of the field staff. Most often, than not, control has been minimal, no doubt in the belief that it was a simple and straightforward task.

The general plan of relisting (sampling controls) consists of: (a) drawing a sub-sample of assignments to interviewers; (b) re-doing by skilled personnel the work that has been intended for the sub-sample assignments (relisting the selected areas); (c) comparing the results from the original assignments with those from the check assignments for sample coverage; and (d) taking any indicated action to bring this particular operation into closer conformance with the survey design.

It is especially important to realize that the scale of activity in the control of sample coverage must be for reason of cost and feasibility be modest.

(c) OBSERVATION: Observation interviews, during which a supervisor accompanies and observes an interviewer, may offer a more efficient method of control than the reinterview. However, observation interviews also have disadvantages. They are expensive and the supervisor's presence may introduce an element of artificiality.

An observation programme focuses attention on much the same matters as a reinterview: proper asking of questions and recording of answers, performance of individual interviewers, apparent difficulties with certain questions or types of respondents, etc. In addition, it gives the supervisor another opportunity to assess the environment in which the interviewing process takes place, and occasions for more intimate contact with interviewers, including discovery and discussion of points which other more structured techniques might overlook.

The scheduling of observations may take account of three situations. The first is an observation of a new interviewer shortly following completion of his initial training. The second is a periodic regular observation of one assignment or part of an assignment at perhaps three month intervals. (More frequently, if there is no reinterview programme). The third relates to special occasions when other evidence suggests an emerging problem, or the need for retraining.

It is suggested that a supervisor's report be prepared for each observation, following a structured format. This puts a desirable element of discipline into the programme, makes it a little less subjective, and provides higher level supervisors with materials which can be at least partially summarized.

The effectiveness of an observation programme comes in considerable part from its indirect impact on both interviewer and supervisor. But it is enhanced by prompt feedback of findings through the survey machinery in order to bring about improvements where weaknesses are discovered.

(d) ERROR REPORTS FROM CONTROL EDITING: Reinterviewing and observation are strong control mechanisms which utilize inspection and evaluation of samples of interviewer performance. One other surveillance procedure, which renders a more intensive check of certain aspects of reported data, is recommended.

During the editing procedure errors discovered by editors (missing and inconsistent or inadequate entries, on the questionnaire(s) should be counted. These error counts should be tabulated by interviewer, and converted to summary error rates, for classes of questions, for each interviewer. Further summary by classes of questions across interviewers, and by supervision district, provide another assessment of conformity to specified rules by interviewers, supervisors, and by classes of questions.

These error summaries, like other control evidence, should be distributed promptly to appropriate points in the survey administration where they become the basis for corrective action.

(e) OTHER MEASURES (CONTROLS): As the household survey programme advances, other procedures of control may evolve. These too can be incorporated in the field work programme to further improve the data.

The additional controls should be evaluated, however, in an effort to determine whether they will yield desired results and whether the additional expenditures are commensurate with the added accuracy obtained.

Document flow control

(a) DEVELOPMENT OF A FLOW PLAN AND ACCOUNTING PROCEDURES: A household survey programme makes it necessary to exercise considerable care in controlling the movement of materials. Materials will be flowing to the field and back in a constant stream.

This is perhaps the simplest control phase in the entire field work operation. Yet, too often this is done in a sloppy manner, if at all. Unless care is taken, serious but inexcusable problems arise. Therefore, the prompt transmittal of materials to the proper individual and the keeping of complete and accurate records are necessary for successful and efficient implementation of the household survey programme.

Although control is essential, this activity must not be allowed to get out of hand. In setting up an operation to control the flow of materials, procedures should be kept as simple as possible. The essentials must be included but the operation should not be cumbersome. The control forms should also be designed with no less care than is devoted to the design of data gathering forms. Complicated and awkward forms encourage carelessness in completion.

There are seven basic stages in the life of the materials used by the field staff: (1) production; (2) distribution to the field staff; (3) field use; (4) return to the office; (5) checking and processing; (6) storage; and (7) disposal.

(b) PRODUCTION AND DISTRIBUTION: The plan for production and distribution should assure the right materials being in the right place at the right time. Too early, and they may be lost; too little or too late; and interviewers may miss important interviewing opportunities or begin to feel that their work schedules and production deadlines can be treated lightly.

The control clerk will receive from the sampling technician a list of segments to be interviewed during a specified week. From this list, he will determine when a segment is to be assigned for listing, interviewing, etc.. He will also determine which interviewer should receive the assignment, according to the assignment areas established by the field supervisors. The dates when each operation is required to be completed and the date each is assigned is recorded on a kind of master control form.

Each month the control clerk will send to the interviewer a copy of the interviewer's assignment form which lists each job to be completed during the month and the date when it is due. He will also attach the map and other appropriate materials. Because of the importance of the maps which outline the boundaries of each counting area, special precautions should be taken to avoid losing them.

In addition, materials for the field supervisor's use in the observation and reinterview programme must be prepared and recorded. The supervisor will receive a list of the interviewers he is to observe during the month and may be the date when this reinterview/observation should take place. He will be also told which areas/segments are to be relisted and he will receive the materials he will need for these tasks.

(c) RECEIPT OF MATERIALS FROM THE FIELD: When the interviewer completes the work in a given segment, the folder containing the completed questionnaires and listing sheets will be sent to his supervisor. After a review, the supervisor will transmit the materials to the control clerk at the central office.

Each time the control clerk receives materials from the field he will record on the master control form the dates the materials are received. He will also verify that all the materials which are supposed to be included are actually there, and that the appropriate forms were completed or a reason shown for not completing them. It is also the control clerk's responsibility to inform his supervisor any time material is overdue from the field.

(d) STORAGE-PROCESSING-DISPOSAL: The control clerk will be responsible for the storage and for recording the movement of materials to and from several divisions within the central office.

As the material (questionnaires) move along the processing line, frequent control counts should be established to insure that all forms which started a journey are still present. This control count is facilitated if documents are processed and transmitted in "batches". The documents in a batch can be banded together in a file-folder or envelop along with a transmittal sheet which identifies the documents, their batch number, the number of documents in the batch, dates of transmission from specified points, initials of the clerk who is responsible for verifying the number of documents, and perhaps carrying provisions for certification by other clerks that particular processing operations have been performed on the documents in the batch.

Disposal of data forms is a stage which is often overlooked but can cause problems if procedures are not set forth. The procedure should guard against inadvertent destruction while materials are still needed, and provide an orderly and secure process for disposal when they are no longer useful.

(e) CONTROL FORMS: Throughout the discussion of control over field work, a number of forms have been suggested. The most appropriate design of the control forms depends of course on the actual procedures adopted in the specific survey design. Therefore, no attempt has been made in this paper to provide corresponding specimen forms. However, in order to give to the reader some general idea of how these forms could be designed, forms A and B are attached as appendices to this paper.

CONCLUSION

The African Household Survey Capability Programme has increased enormously the potential of government statisticians in the region to discover facts and produce relevant information which is fundamental and crucial to a host of government activities, among them development planning. However, this potential is realized only when the conduct of the survey mirrors the design under which it was planned.

Field work is usually the phase of the design where success or failure of the whole survey is most likely to be determined. Therefore, this paper has tried to identify key aspects of this operation which should be controlled, and to suggest appropriate control tools, but more than that to encourage a habit of thinking that recognizes risk of error in any survey procedure, and seeks means of keeping that risk within tolerable bounds.

FORM A

(For country adaptation)

INTERVIEWER'S RECORD

FIELD WORK PROGRESS-REVIEW OF QUESTIONNAIRES-OBSERVATION

Period: From: .....To: ..... Supervisor's Name:.....

Interviewer's Name .....

PART I - FIELD WORK PROGRESS

| Questionnaires | | | Remarks |
|---|---|---|---|
| Assigned | Completed | Returned | |
| ... | ... | ... | |

PART II - REVIEW OF QUESTIONNAIRES

| Questionnaires | | | Remarks |
|---|---|---|---|
| Acceptable | Acceptable with minor errors | Unacceptable second interview required | |
| ... | ... | ... | |

PART III - OBSERVATION REPORT Date: .....

| Did the interviewer: | Yes | No | Comments |
|---|---|---|---|
| 1. Identify the right household(s) | | | |
| 2. Give a proper introduction and explain the survey properly? | | | |
| 3. Ask questions properly? | | | |
| 4. Complete all appropriate sections and questions? | | | |
| 5. Close the interview properly by making a quick review? | | | |

FORM B

(For country adaptation)

SUMMARY OF RESULTS IN THE AREA SEGMENT

(One for each area. To be completed by the supervisor at the end of work in the area and sent to central office)

Locality: ..... Area or segment No: .....

Supervisor: .....

Date field work began in the area: .....

Date the team leaves the area: .....

| | |
|---|---|
| 1. Number of addresses (dwellings) selected in the area: | ..... |
| 2. Number of addresses (dwellings) not found or not reached | ..... |
| 3. Number of vacant or demolished dwellings: | ..... |
| 4. Number of occupied dwellings (1) - (2+3) : | ..... |

| | |
|---|---|
| 5. Total number of households (hhs) in occupied dwelling units: | ..... |
| 6. Number of hhs interviews successfully completed: | ..... |
| 7. Number of hhs interviews refused: | ..... |
| 8. Number of hhs interviews not completed for other reasons: | ..... |
| 9. Total hhs interviews not completed: | ..... |

Remarks

Signature: ..... Date: .....

## List of references

1. U.S. bureau of the Census: Atlandita: A case study in Household Sample Surveys.

2. Laboratories for Population Statistics: Operational Control of Sample Surveys.

3. WFS-Basic Documentation: Supervisor's Manual.

4. WFS: Management of National Surveys.

# CONTROLE DES OPERATIONS DE TERRAIN DANS LES ENQUETES AUPRES DES MENAGES

Ce papier traite d'un important aspect des activités de l'enquête qui hélas est souvent négligé. Il décrit les différentes étapes à effectuer pour s'assurer que l'exécution des travaux de terrain permettra d'atteindre le but fixé. L'accord entre l'éxécution et la conception ne peut être considéré comme acquis si des actions positives ne sont pas prises dans ce sens.

Le papier donne des directives pour l'établissement d'un programme de contrôle ainsi que des procédures pour assurer le contrôle des operations de terrain, fournissant ainsi la garantie nécessaire que les résultats seront conformes aux objectifs, bien que la garantie absolue ne soit jamais assurée mais puisse être approchée au maximum seulement à l'aide d'une vigilance continue.

L'objet de ce papier est par conséquent d'identifier les aspects clés des opérations de terrain qui doivent être contrôlés et de fournir aux recommandées sur le plan international sur ce sujet.

Une attention est également donnée au contrôle des matériels à destination ou en provenance du terrain - une activité qui est souvent négligée. On décrit le programme d'activités ainsi que les procédures comptables et on souligne la nécesité de garder des procédures aussi simples que possible dans l'établissement d'un tel programme de contrôle.

Le papier décrit en outre dans les grandes lignes les opérations de terrain et les méthodes de contrôle des travaux des enquêteurs et présente la structure de direction ainsi que les tâches du personnel de terrain.

# TRANSPORT PRICES IN AFRICAN CONSUMER PRICE INDICES: SOME GUIDELINES

## INTRODUCTION

As countries develop economically and technically, the field of transport becomes more and more important. Consequently, there is a growing need for information about the developments in the transport sector. In this paper the implementation of transport prices into the consumer price index (CPI) of African countries is discussed. A second paper is being prepared which puts emphasis on quantity statistics, value added and other measures. The transport of goods will be dealt with in the second paper as transport prices for goods are not explicitly included in consumer price indices.

In spite of the growing importance of the transport sector in many countries, many African countries still do not include the commodity group 'transport' in their consumer price indices. Possible reasons for this are:

- difficulty in measuring prices in parts of the transport sector accurately.
- problems of finding adequate weights for the commodity group.
- for some countries the transport sector may still be of limited importance.

## RECENT DEVELOPMENTS AND SOME EXAMPLES

In order to provide the reader with some information about recent developments in CPI-transport prices and how different African countries deal with transport prices in the context of their CPI some comments and examples are given in the following paragraphs.

From publications (1), (7), (8), it can be seen that between 1969 and 1977 (at least) eight African countries started to include the commodity-group transport in their CPI. As of the 1972 supplement to the UN-Statistical-Yearbook 16 of 37 African countries mentioned there included transport prices in the calculation of their CPI. 21 of the 38 African countries mentioned in the 1977 supplement of the UN-Statistical-Yearbook explicitly publish a transport price index. As of the 1984 ILO-publication "Statistical Sources and Methods, Consumer Price Index" (11), it appears that between 1977 and 1982 there has been no further progress.

A look at the number of items and percentage weights of the commodity-group 'transport' in CPI's of different countries shows substantial variations between these countries. According to sources (1), (7), (8), Ethiopia used three items for transport whereas Kenya used 25 items for the European CPI and 11 for the middle income CPI.

Also the weight given to transport as a whole varies considerably, the range being 3.5 per cent (Togo) to 34.9 per cent (High income CPI of Uganda). Most of the weights however, range from 6 per cent to 11 per cent. These weights are usually derived from household expenditure surveys and they reflect both national differences and differences between income groups.

In order to get a more detailed impression of the items and their within-group weights the examples of Kenya and Zaire are taken.

Items and their within-group percentage weight are given in the following tables:

Table 1: Items and weights on transport for lower income price index (Nairobi, Kenya)

| Item | Percentage weight within sub-group |
|---|---|
| City bus fare (short) | 53.6 |
| City bus fare (long) | 17.9 |
| Country bus fare | 17.9 |
| Bicycle tyre | 3.6 |
| Bicycle tube | 3.6 |
| Puncture repair outfit | 3.6 |

Table 2: Items and weights on transport for 'Indice de Prix à la consummation familiale sur les marches des Kinshasa, 1976

| Item | Percentage weight within sub-group |
|---|---|
| Petrol (regular) | 16.1 |
| City bus fare | 51.6 |
| Taxi fare | 32.3 |

More examples could be given but they would also show that items and weights vary from one country to the other, reflecting their different conditions.

CLASSIFICATION OF THE COMMODITY-GROUP TRANSPORT

As one reference states, "the service provided by transport is to move goods or persons from one location to another, so that the coarse quantity units in which output is to be measured consist of the ton-kilometres, or passenger-kilometres. It is extremely important, however, to ensure that the data are sufficiently disaggregated to distinguish all the different kinds and qualities of transport provided". (6)

A classification scheme for the different kinds and qualities of transport in a particular country must of course reflect the conditions of the country concerned. At the same time, however, it should, if possible, facilitate international comparisons. These are to some extent competing aspects. The classification scheme set out in Table 3 was developed within the framework of the International Comparison Project for Africa (ICP-Africa). The complete list of classification and items (for transport) is given in the annex and is cited from (10).

Table 3: Sub-group headings for commodity group transport

| | |
|---|---|
| 61 | Purchase of vehicles |
| 611 | Cars |
| 612 | Cycles and mopeds |
| 62 | Operation of personal transport equipment |
| 621 | Tyres and tubes, spare parts and accessories |
| 622 | Charges on maintenance and repairs |
| 623 | Petrol, oil and grease |
| 624 | Other expenditure on personal vehicles |
| 63 | Purchased transport |
| 631 | Local transport |
| 632 | Long distance transport |
| 632.1 | Road transport |
| 632.2 | Rail transport |
| 632.3 | Air transport |

For some countries, some modification of item definitions or deletion of sub-group headings may be advisable in order to meet the conditions of the country considered. However, this list of classifications can serve as a common frame for African countries.

An example of a slight modification to the classification scheme is provided by Libyan Arab Jamahiriya. In the questionnaire on household expenditure (14) 'horse carriage' was included. This would obviously fall under sub-group 631 (local transport) in the above list. However, as can be seen from the more detailed list of items in the annex, there is no item relating to animal drawn transport. So in this case this item may have to be included.

In many African countries lorries and pick-ups are used for passenger transport. So whenever this mode of transport plays a significant role the item 'travel on a lorry or small pick-up' should be introduced. On the other hand the list of items relating to personal purchase of vehicles is too detailed and should be modified.

To summarize, for most countries the list of definitions contains too many items. Also the definitions may have to be changed in order to meet the conditions of the country concerned. For example, in the case of Kinshasa mentioned-above, the whole sub-group private transport (which consists of 66 items in the detailed list) is represented by not more than 3 items (covering expenses connected with bicycles). The selection of items is considered in more detail in the section "The collection of prices".

Deletion of sub-group headings

Generally not all sub-group headings for commodity group transport will be of significant importance for a particular country. In order to delete those sub-groups which are less important, the following procedure is proposed: Check which sub-group headings are of significant importance. It is suggested that for two digit sub-headings the relative importance should exceed 0.6 per cent. For three digit sub-group heading the limit is 0.3 per cent. If the relative importance of a sub-groups heading exceeds these limits the corresponsing heading should be included.

The choice of these limits is somewhat arbitrary, but they may be used as rough guidelines. These limits may also be changed according to the special conditions of the country concerned. The limits for inclusion given are relatively small, taking into account the relative unreliability of highly disaggregated data. This ensures that when deleting sub-groups according to these rules, one is always on the safe side.

Hence the list of sub-group headings in Table 3 can serve as a classification scheme. The deletion of some sub-headings may be advisable in order to meet conditions of the countries concerned. The detailed list of items can be used as a sampling frame for the selection of items. In some cases item definitions have to be changed, while other items are deleted or added. If this list is used in this way, the classification of ICP-Africa can serve both purposes:

- the international comparison, and
- meeting the conditions of African countries,
  given that certain modifications and simplifications are performed on it.

## THE CALCULATION OF THE WEIGHTS

### General remarks

Before talking about practical problems arising when weights are to be calculated, the role of weights in the CPI should be discussed. The weights of the CPI are meant to represent the household expenditure of the population group under consideration. Therefore household expenditure surveys are carried out in most cases in order to estimate weights of commodity groups (such as transport). If all prices behaved in the same way the weights would be redundant. On the other hand, if the behaviour of transport prices differs strongly from the behaviour of other prices (or the general price level), a wrong weight for the commodity group transport may cause a bias in the estimation of the general index. Unfortunately, for many African countries, differences can be seen to exist in price trends between the transportation index and the general index. So efforts should be made to arrive at reliable weights for the commodity group transport. On the other hand, the search for accurate weights should not be overemphasized.

### Practical problems in the calculation of weights

For the calculation of a CPI the relative importance of the sub-classifications of transport services and goods have to be known or to be estimated. This requires data on value of expenditure on these sub-classifications.

Rough estimates for the relative importance of the sub-headings 61 (purchase of vehicles), 62 (operation of personal transport equipment), 631 (local transport) and 632 (long distance transport), will usually be available from household expenditure surveys. In some cases these data (or data from other sources) will show that certain sub-headings are not of significant importance, so they can be neglected.

In order to calculate weights for more detailed sub-headings (as has been done in Phase IV of the ICP, see (9) page 25) more information is necessary. For the 15 African countries that took part in the ICP (Phase IV) the corresponding weights may be taken from the table of relative nominal values ((9), page 199-201). However, if the CPI concerned refers only to a specific sub-group of the population, some adjustments to these weights may be necessary.

In general, other sources of data have to be exploited. These for example may be:

Transport statistics
Statistics of private motor vehicles licensed (by type and make)
Import statistics (about vehicles and spare parts)
Statistics about the number of taxis and buses in use
Statistics about railway, airway and shipping
Statistics on local production of spare parts and cars
Some of these sources may provide information about regional differences

As the sources of information are different for each country no general rules for the calculation of sub-group weights can be given. If available, official statistics about the transport sector should be used. However, in most cases some rough estimation procedures will have to be used in addition to the data already available.

To illustrate such a procedure let us take the artificial example of Capital City C. From a household budget survey it may be known that the expenses of the all income group for public transport constitute 4 per cent of their total expenditure. It may be known that only taxi and bus transport are relevant for this population group. So the breakdown of these 4 per cent into taxi and bus transport are to be found. Let us further suppose that from official sources the numbers of taxis and buses are known, as well as the prices in the base year. Rough estimates could be made for the average number of journeys per day. These data are summarized in the following table:

Table 4: Artificial data for calculation of item-weights

| | Number | Average number of passengers | Average price of journey |
|---|---|---|---|
| Buses | 100 | 1 000 | $US1 |
| Taxis | 500 | 100 | $US6 |

To arrive at the amount of money spent on average on buses and taxis the numbers in the rows for buses and taxis have to be multiplied together. This yields the following results:

| | | | | | | |
|---|---|---|---|---|---|---|
| Average daily expenditure on buses | = | 100 | . 1000 | . $US1 | = | 100.000$ |
| Average daily expenditure on taxis | = | 500 | . 100 | . $US6 | = | 300.000$ |
| | | | | Total | = | 400.000$ |

So 25 per cent of expenditure on public transport is spnt on bus fares and the remaining 75 per cent on taxi fares. As the expenditure on public transport has a weight of 4 per cent, we arrive at the final weights of:

4 per cent x 0.25 = 1 per cent for buses
and 4 per cent x 0.75 = 3 per cent for taxis

Again, when calculating average numbers of passengers per day and vehicle rough approximations have to be made. However, here again it should be emphasized that there is no need "to search for the most detailed and accurate weights, since the approximation in calculating weights has less impact on the price indices compared with a small error in the price level or in calculating price relatives". (3)

Of course, the kind of approximations used for the calculation of sub-group weights will always depend on the data available. These data may vary from country to country and in some cases from region to region. Hence it is a matter of skill on the part the statistician to make use of whatever relevant data is available and to find the most accurate approximations in order to derive appropriate weights for the CPI. Often it will be found that estimates on public transport are easier to obtain than data from other parts of the economy.

## THE COLLECTION OF PRICES

### General considerations

The main purpose of the CPI is to describe the development of cost-of-living. As groups of transport prices can be expected to show similar trends, some effort should be made to select items which represent their groups in the best way, i.e., which correlate highly with the price trends of their sub-group. A very rough rule of thumb for selecting such items will be given in paragraph 66.

Also if prices of certain similar services or goods are highly correlated it may not be necessary to observe them all with the same frequency. If for example there is a high correlation between the prices of certain transport services (say bus and collective taxis) the collection of prices for the bus could be done monthly and the taxi prices could be collected once a year only.

Not only matters of representativity will affect the selection of items but also the ease of their collection. The manpower involved when sampling price statistics will strongly influence the number and selection of items. Countries with little manpower for price collection will give rather more importance to the ease of data collection than others. Finally when selecting items three aims will compete. These are:

- to find items which represent their sub-groups
- to find items with large weight
- to find items for which prices can be collected easily

### Definition of prices

Two particular problems concerning the defition of prices which seem to be relevant in African countries are the distinctions between fixed prices and negotiable prices and between official and actual prices.

In many African countries a lot of items and outlets (markets) exist where prices are not fixed, but have to be negotiated. Obviously when measuring prices one is interested in the price which is actually paid for the selected item. So bargaining comes into play, special problems related to negotiable prices are discussed in the section on "Problems of price measurement when prices are not found.

A very similar problem occurs in the sector of public transport. In many countries fares for public transport are officially controlled, but in some cases (for example taxi-transport) these controls may not be effective. In these cases it is necessary to distinguish between official and actual prices. Of course the price to be measured then is the actual price of the item. The problems connected with the collection of actual prices may be similar to those connected with the collection of negotiable prices.

Definition of items

The way in which items are defined will influence the prices which are actually measured. An item can be defined by its physical properties or it may just be defined by the purpose it is serving. In most cases, however, a detailed specification of the item is desirable. The main reasons for this are, that a specification of the item will facilitate:

- the assessment of quality changes
- the differentiation of different modes of transport, which may also be required for other purposes than CPI (for example: concepts of value added by transport in the framework of national accounts).

The amount of detail to which an item is specified will, however, depend on the national conditions and the item itself. If the item specification is too detailed it may happen that this specified item will not be available.

Selection of items

When selecting commodities for pricing, the aim should be to select them in such a way that:

- they represent the final consumption of the population group to be covered;

- they represent the non-selected items of their corresponding sub-group.

If a list of relevant items exists, it is possible to select items to be priced by random sampling. Whenever possible, random sampling should be applied, because items selected by random sampling can be expected to repres represent the non-selected items of their corresponding sub-group. The list of item definitions given in the annex can serve as a sampling frame for the selection of items. However, in most cases modifications of item definitions, introduction or new items, or deletion of existing items will be necessary in order to meet the conditions of the country concerned.

In some cases different procedures for the selection of items such as random sampling proportional to importance or purposive selection may be considered. If an appropriate sampling frame exists, random sampling is recommended.

Methods of reporting prices in the transport sector

There are several ways of reporting and collecting prices:

(a) Reporting by outlets, trade associations and enterprises

(b) Price inquiries by the statistical office

(c) Price collection by purchasing and/or bargaining.

Most of the prices for items in the transport sector can be collected by methods (a) and (b), which is very desirable, because these methods require less manpower.

For all sectors of public transport where prices are controlled (and this control is known to be working) method (a) is obviously applicable. Also in the government-owned sector of public transport this method is applicable. One method is to ask enterprises to report changes in their fares by letter to the statistical office. Alternatively, a telephone call could be used to obtain the necessary information. For the large part of public transport (such as bus and lorry passenger transport) methods (a) ar (b) should be sufficient.

In the non-governmental sector of transport and/or where official price controls do not apply it will usually be necessary to apply methods (b) or (c) to collect data. Manpower considerations and resources will always favour method (b). However, wherever a significant change in price can be achieved by bargaining it may be advisable to use method (c) for price collection. This for example may be the case for taxi transport or purchase of spare parts. However, as method (c) of collecting prices can cause serious problems, this method should be avoided whenever possible.

Sampling problems

As it is impossible to collect prices for all possible areas, commodities and outlets, a sample of these has to be taken. This implies that the selected areas, commodities and outlets should be representative for those areas, commodities and outlets as far as their price development is concerned.

Selection of areas

If the index is to cover the whole country, samples will have to be taken in all areas of the country where regional price differences are suspected to exist. Also some services or goods related to transport may not be available in certain areas. For example in one rural area passenger transport may be performed by lorries, in the other it may be performed by buses. If there are only differences between cities, villages and rural areas but no regional differences it may be sufficient to collect prices from one city, one village and one rural area only.

For countries just starting with the measurement of transport prices for their CPI it may be advisable to collect transport prices in different regions in order to check for regional differences.

When checking for regional differences it should be kept in mind that for inter-temporal comparisons price levels need not be the same in different regions. Even if the price levels in two different regions are not the same, one region may be regarded to represent the other for interregional comparison, if the price trends are similar. To illustrate this the following example of bus fares is considered:

Table 5: Bus fares for two different regions for consecutive years

| Bus fare | YEAR | | | |
|---|---|---|---|---|
| | 1980 | 1981 | 1982 | 1983 |
| Region A | 0.20 | 0.22 | 0.25 | 0.27 |
| Region B | 0.40 | 0.44 | 0.50 | 0.54 |

Although price levels in region A and region B are different the price trend obviously is the same. In this case it would be sufficient to collect prices only in one of the two regions (as far as the CPI is concerned).

Selection of respondents

The question of which respondents to select can be easily answered for rail- and airway transport. Usually there will be a very small number of air/ and railway companies (perhaps only one), so that all enterprises providing these services should be selected as respondents. If also there is only a small number of bus companies the same applies for them.

In cases where the number of outlets is too large, probability sampling proportional to importance (measured by value of goods or services sold) is in order. Some very important respondents may be included with probability one. Obviously this method can only be applied if a sampling frame (list of outlets together with a list of their relative importance) exists. The main problem will usually be the list of outlets, as relative importance can be roughly estimated. Four outlets selling spare parts and for bus-companies this approach may be useful in some cases.

In some fields of transport (for example independent taxi-drivers) it may not be possible to provide a sampling frame. In such cases, purposive sampling will have to be used.

The selection of taxi-drivers for price inquiries may cause problems. In some countries the price for the same taxi-ride may differ depending on the taxi-driver providing the service. If so, it would be desirable to ask the same taxi-driver each time price collection is performed. However, this approach may not be practicable, because it may not be possible to find the same taxi at the same place and time. Again, asking the same taxi-driver for fares at different times of the day may introduce bias if prices vary according to time of day. Also the appearance of the agent may influence the taxi-driver when negotiating the fare. Hence, there may be many sources of variation, which are liable to make the measurement of price relatives in this area quite unreliable.

Best copy available

If significant variations in price occur and as it is unlikely that the same taxi-driver can be found every time a price collection is carried out, it may be necessary to collect price quotations from several different taxi-drivers. This will reduce the sampling error at the same time as providing some information about the variation in fares charged by different taxi-drivers. Obviously, all such price quotations should be taken on the same day of the week and at the same time of the day. Problems of interview as described above are very likely to arise when prices are not fixed but have to be negotiated. As these problems are of general interest they will be dealt within the the section "Problems of price measurement when prices are not fixed".

Time intervals for price collection

For many items included in the CPI (for example commodity group food) many countries collect prices at weekly intervals. The reason for this is that prices for these items show variations within short time intervals. If prices are known to the constant over longer periods of time, it is not necessary to collect prices at weekly intervals. Officially controlled prices (many are in the transport sector) or prices of air and railway will usually not change every week. It may be possible to save manpower by just looking at the price development of the items to be considered in the past, to decide which time intervals between price collection are appropriate.

For some commodities in the transport sector it may be known that there is a correlation between them and other economic indicators, two examples being a possible connection between exchange rates and prices of imported cars, and a possible correlation between petrol prices and prices for certain transport services. As both exchange rates and petrol prices are easily accessible, any changes may indicate the additional price measurements are in order.

SOME SPECIAL PROBLEMS

Problems connected with definition of items and prices

When defining items (and prices) there are some problems which should be taken account of, such as regional differences, seasonal differences and quality differences, which in some cases can either be looked at as differences in quality or in prices. These problems are dealt with in the following sub-sections.

Seasonal differences

Seasonal differences in prices within the transport sector are not as likely to occur as for example in the food-sector. However in some cases there may be reasons to consider the same item as a different quality according to the season in which it is bought. This of course could be the case for special kinds of rural transport. When there are no all weather roads, travel in the rainy season could be considered to be of a different quality, from the same travel during the dry period, because of higher costs due to the weather conditions. Problems of seasonal non-availability of items will be dealt with in the section "Seasonal non-availability".

Seasonal non-availability

When considering transport services it may happen that a particular transport service may not be available for a limited period of time. This is likely for transport services performed on roads which are not all weather roads. In the rainy season these services may have to be stopped. Obviously, in this case prices cannot be collected. The procedure suggested here is to use other commodities in the sub-group transport as proxies.

For illustration the following example can be taken. Suppose that for a rural area there are three items on purchased transport:

| | |
|---|---|
| Taxi ride from A to B (all weather road) | Weight 1 per cent |
| Bus ride from A to B (all weather road) | Weight 4 per cent |
| Lorry ride from C to D (not all weather road) | Weight 5 per cent |

During the rainy season the lorry ride is not provided. In this case the following procedure is recommended: For the period of non-availability of the item calculate the price index only including the taxi ride and bus ride. Calculate the percentage increase of this index during the period of non-availability. Use this percentage increase in order to extrapolate the current price relative for the lorry ride from the last recorded price relative. With this estimate for the price relative for the lorry ride from C to D, the price index including all three items can be calculated.

If no other items are available in the sub-group of interest it may be decided to take item(s) or sub-group(s) with similar price trends in order to apply the procedure described above.

Quality differences

Considerable difficulties may arise when a new product is introduced into the market. When the old and the new product are on the market during overlapping periods of time, they are assumed to be competing and usually the quality difference is taken to be proportional to the price difference. Problems connected with this approach (arbitrary point of time to introduce the product into the price index, possible underestimation of the price index) are well known, and will not be discussed here. As long as the old product is still available on the market the approach described above is recommended. The practical problem connected with this approach is the splitting of the weight for the old item into one part for the old and one for the new item. This splitting will usually take place in a purposive manner. Even more difficulties will arise, if the new item completely replaces the old item.

To illustrate this the following example can be taken: Suppose in a rural area passenger transport was performed by lorries and small pick-ups and now there is also a bus providing the same service for a higher fare. As long as both services exist at the same time, the quality difference will be regarded proportional to the price difference. However, if the bus service completely replaces the lorry services this approach may not be adequate for purpose of the CPI.

For a family with a low household budget, the increase of quality introduced by a more comfortable bus journey may not be important, as the only purpose for them is to get from one place to another as cheaply as possible (for example to the next market). Even though there is an increase in quality, this low income family may not experience it. Consequently (for purposes of CPI) it may be better to treat this quality change as a change in price. Whenever essential goods and services and low income population groups are considered, this kind of problem is likely to arise. The statistician has then to decide how to treat these differences in quality.

Price discrimination

The expression 'price discrimination' describes the fact that for the same product/service different prices may be charged. In the transport sector this phenomenon may, for example, occur in the case of taxi fares. A taxi fare from location A to location B may depend on:

- the customer (does he look wealthy?)
- the taxi-driver
- the time of the day.

Also the price may depend not only on the distance between A and B but also on the location of the areas A add B. Usually only one taxi-journey from one location to another will be used to calculate the CPI and this should be selected to be as representative for other taxi-journeys as possible.

Also for the car repair service the problem of price discrimination occurs. There will usually be price differences between repair services of official car dealers and those of other repairers These should be regarded as different services. In the definition of items (annex) consequently costs of repairs provided by official dealers are distinguished from those of others. For the remaining commodities in the sub-group transport, problems of price discrimination are not likely to be very important.

Problems of price measurement when prices are not fixed

Whenever prices are not fixed but have to be negotiated the price measured will not only depend on the past price development, but also on the skill of the person negotiating. If the price relative, as well as the price level, is influenced by negotiating skill, this interviewer bias reduces the reliability of the price measurement.

In the case of negotiable prices it is suggested, that whenever one interviewer is replaced by another, both interviewers should collect prices during an overlapping period of time. Differences between price quotations of the interviewers can be assessed and, if necessary, corresponding measures can be taken.

A common method of finding out whether there is any interviewer bias is the method of interpenetrating samples. A very simplified version of it could be applied here. This would mean sending different interviewers independently to collect price quotations for the same item.

Later statistical methods can be used in order to identify any interviewer bias, and corresponding measures can be taken to correct for this.

Checking representativity of selected items

In this section a formula for checking representativity is put forward. Clearly the criteria for checking representativity will depend on the relative importances (weight) of the sub-group under consideration.

As an example take two countries A and B and the sub-group local transport, having the weight 2 per cent for country A and 10 per cent for country B. For both countries the item bus travel of 5 km may have been selected to represent this subgroup. Benchmark-data describing the price development in the sub-group local transport may have been collected for 1980 and 1984. The data for country A and B (which for simplicity are supposed to be identical) are given in the following table.

Table 6: Price relative and bench-mark data index for countries A and B

| Year | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|
| Price relative bus travel | 100 | 110.1 | 126.4 | 133.0 | 150.2 |
| Bench-mark data index | 100 | | | | 155.0 |

For further simplification suppose that all other prices remained constant since 1980. Then for 1984 the general index for country A would not differ significantly no matter whether the price relative or the bench-mark data index is taken. The general index for country A including the price relative is 101.004 the general index including the bench-mark data is 101.1. For country B however, the corresponding numbers are 105.02 add 105.5 and after rounding 105 and 105.5. Hence the indices differ by half a percentage point. In practice these differences may become larger. This example is only meant to show that the criteria for checking representativity may depend on the weights.

Whenever a systematic underestimation of the real price trend is observed like in the example given above, efforts should be made to assess the possible reason for it.

The criterion for checking representativity suggested below is applicable to all commodity subgroups. It can be assumed that in a particular commodity subgroup the price trends are roughly the same. "Although we no longer expect (as Iriving Fischer did) that the behaviour of all prices is similar, the theory of price and value does suggest that there will be groups of prices subject to the same influences that will behave in the same way" (5). In general, this statement will be true for commodities in the same commodity-subgroup.

Hence, let $p(t)/p(o)$ be the observed price relative of an item representing a subgroup with the true price relative f (estimated by benchmark data), Assuming the model $p(t)/p(o)=f+e$ with e representing a sampling error, error, being normally or symmetrically distributed and stochastically independent, the following procedure can be suggested:

(a) Estimate standard deviation of the price relatives from the benchmark data;

(b) Calculate difference between benchmark data index and price relative of the item under consideration ;

(c) Consider the item as non-representative if this difference is larger than:

- one standard deviation if the weight of the item (subgroup) is large;

- two standard deviations if the weight of the item (subgroup) is moderately large;

- three standard deviations if the weight of the item (subgroup) is small,

A similar rule is frequently used in other fields of applied statistics for the detection of outliers. An item showing a different price relative from other items of its commodity subgroup may be considered as an outlier in the classical sense in this context. The dependence of this rule on the weight of the item (subgroup) ensures that items with higher weights are more likely to be considered non-representative as items (subgroups) with smaller weights.

In cases where it is not possible to estimate the standard deviation of the price relatives in a subgroup (for example, because the number of price relatives of the benchmark data is considered as being insufficient), another method of estimation may be considered: The coefficient of variation may be postulated not to exceed a certain size. From this an upper limit for the standard deviation can be derived which may be used in the procedure described above.

Application to the example in the paragraph which shows table 6. Let us suppose that the benchmark data for 1984 in table 6 consist of price relatives of seven items, the corresponding price relatives being 150.2, 154, 155, 156, 159.8. The estimated standard deviation of these price relatives is 2.83. So for country A with the small weight of 2%, the item bus travel is considered to be representative, because the difference between its price relative and the benchmark data index is smaller than three times the standard deviation of 2.83. For country B, however, with the large weight of 10% for the same item, the rules suggest that the item is to be considered non-representative because the difference 4.8 is larger than the estimated standard deviation.

Manpower constraints will not allow many countries to collect detailed data over a long period of time. However, if a transport price index is introduced it may be advisable to collect bench-mark data during the first time in order to check representativity of the selected items. (For example monthly price collection for the first year). This can be very important, if only a small number of items (perhaps only one) stand as a proxy for a commodity group with a relatively high weight.

It should be noted, however, that this bech-mark data approach involves the assumption, that if a particular item is representative in one year it is also representative in another year. So it may be advisable to check this from time to time (for example at five year intervals).

Problems of price and quality measurement for sub-group purchase of vehicles

The purchase of new cars is not likely to play an important role in the expenditure of African families. In this respect the full list of items given in the ICP is far more detailed than necessary for regular pricing for a CPI.

If the item 'purchase of a car' has to be included because of its importance, it is suggested that for the ease of collection list prices should be taken, and that in the case of significant changes in specifications of the model of the car is considered to be a new item. Methods which allow for the measurement of quality changes in new cars tend to be very sophisticated. A simple approach can be recommended - the purchase of cars - if it is in included at all - will have a very small weight, and errors in measuring the price trend will not influence the general index (not even the transport index) strongly.

COMPILATION AND PUBLICATION OF THE INDEX

Almost all African countries use the Laspeyres formula - base weighted arithmetic averages of price relatives, in compiling their CPI's ((1), (11)). This form is also recommended for the transport price index.

Revision of weights

A major revision of the weight for the commodity group transport as a whole will usually be carried out using data obtained from a new household expenditure survey. If, however, transport statistics (such as those mentioned in section "Pratical problems in the calculation of weights suggest that significant shifts in expenditure within the group have taken place, then these transport statistics can be used to revise the sub-group weights.

Publication of the index

For the publication of the index the following recommendations can be given: For every CPI it is very helpful if, in addition to the price relatives of the commodity-groups (such as food, transport, rent), the corresponding weights of these commodity groups are shown. This enables the user to assess the influence of certain commodity-groups on the general index.

Prices of items under sub-headings 61 (Purchase of vehicles), 62 (Operation of personal transport equipment) can be expected to behave differently from prices of items under sub-headings 63 (Purchased transport). Countries collecting prices for a sufficient number of items under these sub-headings may consider producing indices for sub-headings 61, 62 and 63 separately.

SUMMARY OF RECOMMENDATIONS

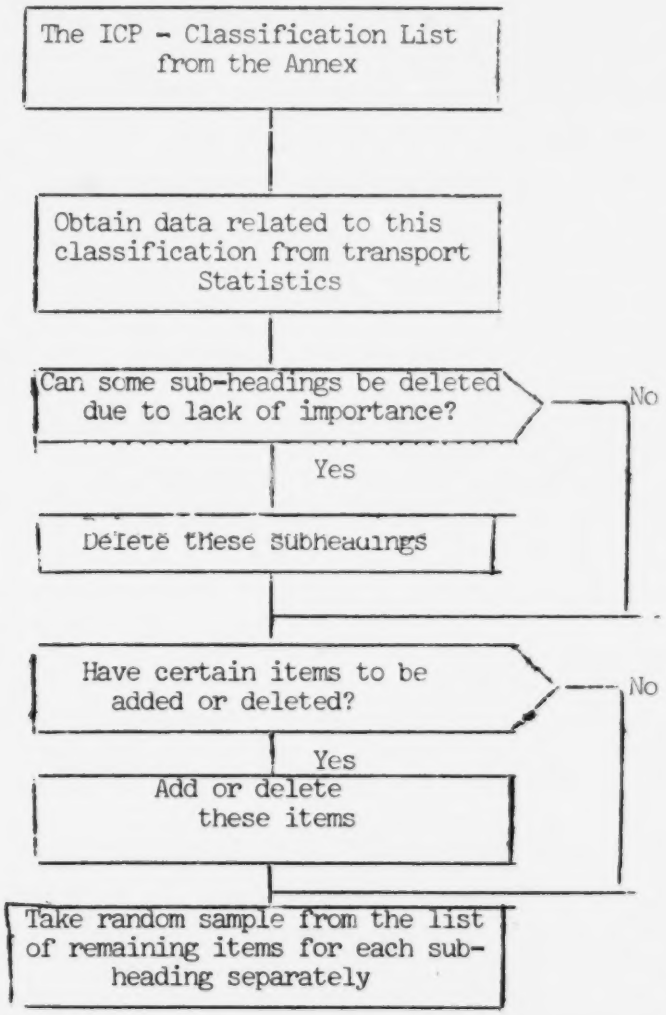
In this paragraph some proposals to solve problems specific to the transport sector will be summarized. These are:

- the selection of sub-groups and items
- the data collection in publicly owned and large enterprises
- the price collection when prices are not fixed.

The selection of subgroups and items

Generally, different kinds of transport-statistics will be available in order to estimate the relative importance of the sub-headings given in table 3. The process of selection of sub-groups are summarized in the following flow chart.

Flow chart:


The ICP - Classification List from the Annex
Obtain data related to this classification from transport Statistics
Can some sub-headings be deleted due to lack of importance?
No
Yes
Delete these subheadings
Have certain items to be added or deleted?
No
Yes
Add or delete these items
Take random sample from the list of remaining items for each sub-heading separately

Data collection in publicly owned and large enterprises

An important part of public transport will be provided by publicly owned or large private enterprises. Generally, where the goodwill of these enterprises can be assumed, they can be asked to report price changes by telephone calls or letters to the statistical office. This method of data collection should be applied whenever possible.

Price collection when prices are not fixed

In most African countries there is a considerable number of goods and services where prices are not fixed, but have to be negotiated. This fact is liable to make the measurement of price relatives less reliable. In the particular case of price quotations from taxi-drivers there is the additional problem that it is generally not possible to obtain price quotations from the same taxi dirver. This introduces an additional variability to the measurement of the price relative. So additional measures as described in the section "Problems of price measurement when prices are not fixed" may be in order.

A possible first step

From the table of relative nominal values ( (9), see page 199-201) it can be seen that for the 15 African countries, which participated in the ICP, the sub-heading 63 (Purchased transport) contributes between 40 to 70 per cent to the transport sector. If purchased transport is mainly provided by publicly owned and large private enterprises, the introduction of purchased transport in to the CPI, should not cause major problems. In this area prices are easy to collect. It should also be possible to include one or two items on purchased transport provided by small private enterprises in order to check whether price trends in this sector differ from those in the sector of large enterprises. If a price index on purchased transport is compiled its coverage should be clearly stated in corresponding publications as a price index on 'purchased transport'.

ANNEX

LIST AND DEFINITION OF THE PRODUCTS IN THE COMMODITY GROUP TRANSPORT

6. TRANSPORT AND COMMUNICATION

61 PURCHASE OF VEHICLES

611 CARS

(a) Renault R4L - 4 doors (R 1123)

(b) Renault R5GTL - 4 doors (R 1225)

(c) Renalut R 18 TL - 4 doors (R 1340)

(d) Peugeot 304 Break GL - 4 doors (D01)

(e) Peugeot 504 Berline GR - 4 doors (10CV)

(f) Toyota Corolla 1300 - 4 doors (KE 70 standard)

(g) Toyota Starlet - 4 doors (KP 62)

(h) Honda Civic - 4 doors (Civic Standard)

(i) Honda Accord - 4 doors (Accord Standard)

(j) Fiat 127 - 2 doors (Standard)

(k) Fiat 128 - 4 doors (Standard)

(l) VW Golf LS - CC 1475 (4 doors)

(m) Mini 850 DL - CC 848 (2 doors)

612 CYCLES AND MOPEDS

(a) Ladies' town bicycle - Peugeot VL 25; single speed; height of frame: 53 cm. Chain guard covering entire chain; chromium-plated rear luggage carrier; Stainless steel mudguard, padded seat; kick-stand; lights; pump.

(b) Men's lown bicycle - Brand: Raleigh; single speed; height of frame: 85-95 cm; chain guard covering entire chain; pedals with reflectors; rear luggage carrier; kick-stand; lights; pump; bell.

(c) Men's town bicycle - Single speed; height of frame: 85-95 cm; chain guard covering entire chain; pedals with reflector; bear luggage carrier; kick-stand; lights; pump; bell.

(d) Peugeot motor bicycle - Peugeot mobylette; type 153 LSX; 49 cc; single seat; front and rear suspension; speedometer.

(e) Motoconfort-Motobecane - Motobecane 85; 49.9cc; single seat;front and rear suspension.

(f) Motor-cycle - Yamaha 125 Trail Enduro; type DT 125; cross-country.

(g) Motorcycle - Yamaha 50 roadster; type 1 B 50.

(h) Motorcycle - Honda camino; type PA 50 L.

(i) Motorcycle - Type ER-25; suzuki 100 cc.

62 OPERATION OF PERSONAL TRANSPORT EQUIPMENT

621 TYRES AND TUBES, SPARE PARTS AND ACCESSORIES

(a) Motor bicycle tyre (Peugeot 152 LSX) - $2^1/4$ x 17 tyre.

(b) Motor-bicycle tyre (suzuki) - 350 x 18 tyre.

(c) Car tyre - Michelin tyre; type XZX 165-13.

(d) Car tyre - Kleber V tyre; type 12/165-13.

(e) Battery, locally manufactured - 12V, 30 AH; plastic casing; 23.50 x 14 x 23 cm.

(f) Battery, locally manufactured - 12 V 45AH; plastic casing; 26 x 17.50 x 24 cm.

(g) Imported battery-brand; tudor; 12V 38 AH; polypropylene casing.

(h) Sparking plug - brand; champion; type N9Y.

(h1) Sparking plug - brand; AL-DELCO; type;9y

(i) Sparking plug - brand; bosch type; W175T30.

(i1) Sparking plug - brand; Marshal

(-j) Inner tube - $2^1/4$ x 17 (for a peugeot mobylette - 53 LSX).

(j1) Like item "j" - inner tube $2^1/4$ x 18 (for a peugeot mobylette 153 LSL)

(j2) Like item "j" - locally produced;

(k) Brake cable - for peugeot mobylette; 153 LSX; length of cable 2 m.

622 COST OF MAINTENANCE AND REPAIRS PERFORMED BY A GARAGE

Charges taken from agents' pricelists.

(a) Oil change and greasing-oil change and greasing for a Renault 4L; cost of labour only (not materials);indicate working time required; cost of labour.

(a1) Oil change and greasing - like item "a" but not official dealer cost of labour.

(b) Replacement of a water pump - water pump for a toyota starlet;cost of labour only; indicate working time required.

(b1) Replacement of a water pump - like item "b"; but not official dealer; labour cost.

(c) Replacement of Shockabsorbers - front shock absorbers for Fiat 127; cost of labour only; indicate working time required.

(c1) Replacement of Shockabsorbers - like item "c", but not official dealer; labour cost .

(-d) Engine tuning - checking of carburettor/ignition of a Peugeot 504 Berline GR; labour cost.

(-e) Replacement of exhaust pipe - to be mounted on "Mini Austin Morris";

(-e1) Replacement of exhaust pipe - like item "e" but not official dealer labour cost.

623 PETROL, OIL AND GREASE

(a) Regular grade petrol - price per litre; indicate octane rating self-service-prices)

(-b) Premium grade petrol - price per litre; indicate octane rating (exclude self-service-prices)

(-c) Diesel-price per litre

(-d) Blend for motor-bicycle-5-7% blend; price per litre

(-e) Engine oil - BP SAE 20 oil; price for 2 litres container

624 OTHER EXPENDITURE ON PERSONAL VEHICLES

(-a) Car insurance (petrol engine) - third party - annual premium paid by the insurad party for a new car; basic premium for driver having 5 years no claims bonus; premium; for a car R 4 L

(-a1) Like "a" above for a R 5 GTL

(-a2) Like "a" above for a R 18 TL

(-a3) Like "a" above for a Peugeot 304 Break GL

(-a4) Like "a" above for a Honda Accord

(-5) Like "a" above for a VW Golf LS

(a6) Like "a" above horse power is not considered

(-b) Driving lessons - a series of 10 or 12 driving lessons in preparation for a driving test, using a 6-7 HP (treasury rating) car Overall cost including accompanying charges (registration fee, theoretical lessons). Indicate length of one lesson (30 min, 45 min. 1 hour) and the number of driving lessons. Cost for 10-12 lessons.

(-c) Road tax - for a new car on the road for 1 year; for R 4 L

(-c1) Line "c" above for a R 5 CTL

(-c2) Line "c" above for a R 18 TL

(-c3) Like "c" above for a Peugeot 304

(-c4) Like "c" above for Honda Accord

(-c5) Like "c" above for a VW Golf LS

63 PURCHASED TRANSPORT

631 LOCAL TRANSPORT

(-a) Bus journey - minimum fare for a bus journey; price of single ticket; indicate maximum distance covered for this fare.

(-b) Bus journey - maximum fare for a bus journey; price of one ticket within urban zone; indicate minimum distance of which this fare applies.

(-c) Monthly bus ticket - price of a monthly bus ticket for an unlimited number of journeys within the urban area; for a civil servant.

(-d) Monthly bus ticket - price of a monthly bus ticket for an unlimited number of journeys within the urban area, for a school-child.

(-e) Taxi journey - fare for a 3 km uninterupted journey within the urban zone, outside the rush hour (during the daytime); a single passenger without luggage; price includes normal fare are customary tip; indicate the amount of tip.

(-f) Taxi journey - collective taxi within the urban zone.

632 LONG-DISTANCE TRANSPORT

632.1 ROAD TRANSPORT

(-a) Coach journey - fare for a single journey of 100 km; fare paid by an adult.

(-b) Journey by hired car (bush taxi or large taxi) - fare for a single journey of 100 km in a Peugeot 504 Break GL with 5 to 8 seats. Fare paid by an adult without luggage.

(-c) Journey by hired mini bus - fare for a single journey of 100 km in a car with more than 12 seats; fare paid by an adult without luggage.

632 RAIL TRANSPORT

The "intermediate" (2nd) class price is to be given. If there are only 2 classes, the second class price should be noted; indicate how many classes.

(-a) Rail journey - normal fare for a single journey of 100km; ordinary railcar without air conditioning, not "express"; second class.

(-b) Rail journey - normal fare for a single journey of 200 km; ordinary railcar without air conditioning, not "express", second class .

632.3 AIR TRANSPORT

(-a) Domestic flight - normal fare for a single journey of 300 km. Economy class; convert into a price for a journey of 100 km.

(-b) International flight - normal fare for a single journey from the country's capital (or city normally approached by international flights entering the country) to Paris: regular flight, economy class.

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# COUTS DES TRANSPORTS DANS L'INDICE DES PRIX A LA CONSOMMATION

## Quelques directives

RESUME :

Le secteur des transports devient de plus en plus important au fur et à mesure que les pays se développent sur le plan économique et technologique. Par conséquent, il y a un besoin croissant en informations sur l'évolution du secteur des transports. Dans ce papier, on a étudié les problèmes relatifs à l'inclusion des coûts de transport dans l'indice des prix à la consommation des pays africains.

Un schéma de classification des différents types de dépenses relatives au transport est proposés. Cette classification ainsi que les définitions des produits, conçues à l'origine pour le PCI-Afrique, peuvent également être utilisés comme base de sondage pour la sélection des articles.

Les méthodes de calcul des coefficients de pondération des articles par sous-groupe à l'intérieur du groupe "transport" sont examinées. En plus des enquêtes sur les dépenses des ménages, d'autres sources de données incluant, les différents types de statistiques des transports, peuvent être utilisées pour l'estimation des coefficients.

Les relevés de prix demandent peu d'effort dans la majeure partie du secteur du transport. Les tarifs appliqués par les grosses entreprises et/ou par les entreprises publiques assurant le transport public peuvent être communiqués soit par lettre, soit par simple coup de téléphone au Bureau de statistique.

Là où les services de transport sont assurés par de petites entreprises, le rassemblement des données sur les prix demande plus d'effort.

Quelques problèmes spécifiques relatifs à l'indice des coûts de transport, tels que ceux liés aux variations saisonnières (non disponibilité), aux différences de qualité et à la vérification de la représentativité des articles choisis, sont examinés.

Enfin, il est fait quelques commentaires sur la publication de l'indice.

# TWO METHODS OF COMPILING REGIONAL CONSUMER PRICE INDICES FOR NORTH AFRICA

## TWO ASPECTS OF REGIONAL CONSUMER PRICE INDICES

Most African countries are publishing monthly, quarterly or yearly consumer price indices, describing the development of consumer prices in the country concerned. It may thus be useful to summarize information about the development of consumer prices in a group of countries, such as the North African countries. (Algeria, Egypt, Libya, Morocco, Sudan and Tunisia).

When constructing such regional consumer price indices, two possible questions may be of interest:

- How do the prices of goods actually consumed behave over time?
- How does price development affect the people of the countries concerned?

These two questions suggest indices of differing construction. The first question requires the value of goods consumed in the countries concerned to be taken into account while the second question suggests weighting by population size.

## FINAL PRIVATE CONSUMPTION WEIGHTED INDEX

The value of goods consumed can be taken from national tables of GDP containing final private consumption at current purchasers' values. In order to arrive at weights for the different countries it is necessary to convert these values, which are given in the local currency, into a common currency. As the ICP-Africa only covers 15 African countries (and only one North African country), purchasing power parities are not available for all North African countries. So the value of final private consumption has to be converted into US dollars using exchange rates.

The use of exchange rates as concersion factors is known to be unreliable because they fail to take account of relative price levels and may be subject to substantial fluctuations. However in the absence of other alternatives the following approach - involving exchange rates - was chosen:

- From national tables of the African Statistical Yearbook the contribution of private final consumption to the GDP was assessed.
- This proportion was multiplied by the GDP estimates in US dollars in the African Yearbook to arrive at an estimate for private final consumption in US dollars.
- The total of private final consumption for all North African countries was obtained by adding up these values.
- The contribution of each country to the total was calculated and these proportions were used as weights.

The results of these calculations are presented in Table 1.

Table 1: Private final consumption in North African countries in 1975 and resulting weights.

| Country | Final private consumption (million $US) | Resulting weights |
|---|---|---|
| Algeria | 5 852 | 18.8% |
| Egypt | 8 414 | 27.1% |
| Libya | 4 184 | 13.5% |
| Morocco | 6 125 | 19.7% |
| Sudan | 3 955 | 12.7% |
| Tunisia | 2 547 | 8.2% |
| Total | 31 070 | 100% |

POPULATION WEIGHTED INDEX

The compilation of a population weighted regional consumer price index is even more straightforward. Only two steps are necessary in order to arrive at weights.

- Calculate the total number of inhabitants of North Africa (These data are available from Table 1.1 of the African Statistical Yearbook).

- Calculate the contribution of each country to the total population.

For the population weighted estimates there is one serious methodological problem, that may impose certain restrictions on the validity of the index. That is the coverage of the national indices.

Some national CPI's cover only the population of the capital city or only urban population (for example Algeria, Egypt, Tunisia), but the weights are derived from the total population of the country. The consumption habits for rural and urban population may differ considerably, and the urban CPI may not represent price trends in rural areas. These facts should be taken into account before drawing any conclusions from the population weighted index. Also if age structure in the different countries are not the same, this may reduce the validity of the index. However, from Table 2 (national) of the African Yearbook it can be concluded that there are no signficant differences in age structures. Table 2 shows the population sizes and the resulting weights.

Table 2: 1975 population sizes for North African countries and resulting weights

| Country | Population size (thousands) | Resulting weight |
|---|---|---|
| Algeria | 16 780 | 17.6% |
| Egypt | 37 230 | 39.2% |
| Libya | 2 430 | 2.6% |
| Morocco | 17 310 | 18.2% |
| Sudan | 15 730 | 16.5% |
| Tunssia | 5 610 | 5.9% |
| Total | 95 090 | 100% |

COMPILATION OF THE INDICES WITH BASE 1975

Table 3 shows both private final consumption and population weighted indices with base 1975. Table 4 shows the national CPI's of the North African countries.

Table 3: Private final consumption weighted and population weighted CPI for North Africa

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980* | 1981* | 1982* | 1983** |
|---|---|---|---|---|---|---|---|---|---|
| Final private consumption weighted CPI | 100 | 107.6 | 120.2 | 137.9 | 152.4 | 179.1 | 204.6 | 230.4 | 260.8 |
| Population weighted CPI | 100 | 107.9 | 121.6 | 137.8 | 155.8 | 183.0 | 209.3 | 236.2 | 272.6 |

* Excluding Libya

** Excluding Libya, CPI for Egypt estimated.

FINAL REMARKS

The indices do not differ significantly partly because the population and private final expenditure weights are not very different except in the case of Libya. For economic purposes the final private expenditure weighted index is more suitable, but there may be reasons on occasion for using the population weighted index. From time to time the weights should be recalculated to see if they still reflect reality.

Table 4: General Price Index Numbers

1975 = 100

| SUB-REGION / COUNTRY | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|
| NORTH AFRICA | | | | | | | | | |
| Algeria | 100.0 | 109.5 | 122.6 | 143.1 | 159.9 | 175.2 | 200.7 | 198.0 | 206.6 |
| Egypt | 100.0 | 110.1 | 124.2 | 138.0 | 151.7 | 183.0 | 202.1 | 232.0 | 261.0* |
| Morocco | 100.0 | 108.3 | 122.0 | 133.3 | 144.7 | 158.3 | 178.0 | 197.0 | 203.0 |
| Libyan Arab Jamahiriya | 100.0 | 105.7 | 111.9 | 145.1 | 137.3 | ... | ... | ... | ... |
| Sudan | 100.0 | 101.7 | 118.8 | 142.3 | 136.2 | 233.9 | 290.6 | 365.4 | 476.9 |
| Tunisia | 100.0 | 105.6 | 112.4 | 118.0 | 128.1 | 140.4 | 152.8 | 170.8 | 189.3 |

* Estimate.

# DEUX METHODES DE CALCUL DES INDICES S/REGIONAUX DE PRIX LA CONSOMMATION RELATIFS A L'AFRIQUE DU NORD

## Résumé

La plupart des pays africains publient des indices de prix à la consommation décrivant l'évolution des prix à la consommation dans les pays concernés.

Il peut donc être utile de synthétiser les informations sur l'évolution des prix à la consommation au niveau d'un ensemble de pays d'une même sous-région comme l'Afrique du Nord.

Lors de l'élaboration de ces indices sous régionaux de prix à la consommation, deux questions interessantes peuvent se poser:

- Comment les prix des marchandises actuellement consommées se comportent-ils dans le temps?

- Comment l'évolution des prix affecte-t-il la population des pays concernés?

Ces deux questions conduisent à envisager des indices de différentes constructions. La première question exige la prise en compte de la valeur des marchandises consommés dans le pays alors que la deuxième implique le recours à un schéma de pondération basé sur la taille des populations.

Les données nécessaires pour la construction de ces deux indices ont été tirées de l'Annuaire Statistique pour l'Afrique. Des estimations relatives à la consommation finale privée exprimée en dollars des Etats Unis pour les pays de l'Afrique du Nord ont été faites et utilisées pour déterminer les coefficients de pondération correspondants.

Un indice dont le schéma de pondération est basé sur la taille des populations à été calculé en tenant compte de la part de chaque pays dans la population totale de la sous région.

En retenant 1975 comme année de base, les deux types d'indices s/régionaux ont été calculés. Etant donné que les coefficents de pondération correspondants aux dépenses de consommation finale et à la taille des populations sont dans l'enseble très peu différents, excepté dans le cas de la Lybie, les indices ne divergent pas de manierè signifcative.

# TABLEAUX ENTREES-SORTIES DES PAYS AFRICAINS

## I. INTRODUCTION

Le but de ce travail est de présenter dans un seul document, sous forme de tableaux harmonisés, les tableaux entrées-sorties qui ont fait l'objet de publication par les pays africains (voir Annexe I la liste des pays et des années couvertes). La documentation dont nous disposons à la CEA ne nous a pas permis d'obtenir des données comparables ni dans le temps ni dans l'espace, sauf pour les pays francophones qui ont adopté le "Système élargi de comptabilité nationale". En effet, il nous a été impossible d'avoir les informations nécessaires pour l'établissement des tableaux entrées-sorties selon un même système de prix par exemple aux prix départ-usine/départ-douane. Néanmoins, nous avons défini un ensemble de règles qui a été utilisé pour l'harmonisation des tableaux entrées-sorties reproduits dans le présent document.

## II. REGLES APPLIQUEES DANS L'ETABLISSEMENT DES TABLEAUX HARMONISES

### I. Cadre général du tableau

Le tableau entrées-sorties proprement dit est constitué par un ensemble de 3 tableaux :

a) le tableau I donne la ventilation des échanges intermédiaires;

b) le tableau II (à droite du premier) indique la demande finale ventilée par catégories et les emplois totaux de chaque produit;

c) le tableau III (au dessous du premier) montre les catégories des entrées primaires et les ressources totales de chaque branche.

A l'intérieur de ces 3 tableaux figurent les lignes et les colonnes; les lignes correspondent aux emplois des produits et les colonnes aux ressources des branches.

Les lignes des tableaux I et II indiquent pour chaque produit ou groupe desproduits la destination en distinguant :

1. les sorties intermédiaires, ventilées par branche utilisatrice (tableau I)

2. les sorties vers les emplois finals (tableau II) ventilées en consommation finale privée, consommation finale publique, formation brute de capital fixe, variation de stocks et exportations de biens et services.

Le total de la ligne (total des emplois) correspond au total de l'utilisation d'un produit ou d'un groupe de produits soit, entrant dans le processus de production d'autres produits, soit consommés par les ménages ou l'administration publique, exportés ou destinés à la formation brute de capital.

Les colonnes des tableaux I et III donnent pour chaque branche la valeur des biens et services en distinguant :

1. les entrées intermédiaires;
2. les entrées primaires ventilées en consommation brute de capital fixe, rémunération des salariés y compris les cotisations de sécurité sociale versées par les travailleurs et les employeurs, impôts indirects nets des subventions, autres revenus;

nécessaires à leur production et la valeur des importations.

Le total de la colonne par branche (total des ressources) comprend les coûts de la production du produit ou groupe de produits étudié (entrées intermédiaires, valeur ajoutée) et la valeur des importations des produits similaires à ceux de la branche.

2. SYSTEME DE PRODUCTION

2.1 Le système de production dans les tableaux entrées-sorties de la CEA est subdivisé en 20 branches d'activité productive selon le type de produits. A une branche correspond donc un produit ou un groupe de produits et réciproquement. Ce critère a été adopté parce que l'examen des tableaux nationaux nous montre que c'est celui utilisé le plus fréquemment par les pays. L'annexe II donne la correspondance entre les branches d'activité de la CEA et la CITI.

2.2 Selon le système de comptabilité nationale (SCN) :

- les "Administrations publiques" sont considérées comme un producteur et tous les achats de biens et services sont enregistrés dans le tableau I comme consommation intermédiaire. La consommation finale publique est composée de la valeur des achats moins les ventes et de la valeur ajoutée des Administrations publiques; elle apparaît uniquement comme un montant global dans une colonne du tableau II.

- la production imputée des services bancaires est considérée comme destinée globalement à la consommation intermédiaire d'une branche fictive dont la valeur ajoutée est égale à cette production imputée mais de signe contraire et la production nulle.

3. IMPORTATIONS

Dans les tableaux entrées-sorties, les importations sont classées selon le type de produits de chaque branche d'activité afin de faire apparaître dans le tableau III le total des ressources par produit ou groupe de produits. Dans les tableaux I et II, elles sont ventilées de la même façon que la production intérieur, en ligne suivant la branche productrice et en colonne par branche utilisatrice et par catégories d'emplois finals, de sorte que l'on obtienne une matrice complète des flux de biens et services importés.

4. EVALUATION DES FLUX DE BIENS ET SERVICES

Les types de prix retenu comme base d'évaluation des flux de biens et services (intermédiaires et finals) dans les tableaux entrées-sorties des pays africains sont les suivants :

- le prix de base (hors impôts indirects moins subventions)
- le prix départ-usine
- le prix d'acquisition
- les prix mixtes (combinaison de 3 types de prix).

Faute de données, nous avons retenu le système de prix adopté respectivement par chaque pays. On trouvera à l'Annexe III une note méthodologique sur les types de prix utilisés dans les tableaux nationaux.

III. CONCLUSION

Les tableaux entrées-sorties présentés dans les pages suivantes sont précédés de notes explicatives afin de préciser pour les utilisateurs la méthode utilisée par les pays et la solution retenue par la CEA pour l'adaptation des tableaux nationaux. Dans ce bulletin d'information statistique n°18, sont publiés les tableaux entrées-sorties d'un pays par sous-région à savoir le Maroc pour l'Afrique du Nord, la Côte d'Ivoire pour l'Afrique de l'Ouest, le Tchad pour l'Afrique centrale et le Kenya pour l'Afrique de l'Est et australe. Les tableaux entrées-sorties des autres pays seront présentés dans le prochain numéro 19 du Bulletin d'information statistique pour l'Afrique.

L'élaboration de ces tableaux doit être considérée comme une mise au point des travaux effectués par les pays de la région de la CEA dans le domaine des tableaux entrées-sorties et comme un premier pas vers l'établissement, sur une base commune, de tableaux entrées-sorties normalisés et comparables. Cet objectif pourrait être atteint avec l'apport des services nationaux de statistique comme c'est le cas actuellement dans les autres domaines.

ANNEXE I

liste des pays

LISTE DES PAYS ET ANNEES COUVERTES

Afrique du Nord

| | |
|---|---|
| - Algérie | 1974 |
| - Egypte | 1966/1967 |
| - Maroc | 1975 |

Afrique de l'Ouest

| | |
|---|---|
| - Côte d'Ivoire | 1974,1978 |
| - Ghana | 1968 |
| - Haute-Volta | 1968 |
| - Nigéria | 1973/1974* |

Afrique centrale

| | |
|---|---|
| - Cameroun | 1975/1976 |
| - Congo | 1980 |
| - Rép. centrafricaine | 1967 |
| - Tchad | 1973 |

Afrique de l'Est

| | |
|---|---|
| - Djibouti | 1976,1978 |
| - Kenya | 1967,1971,1976 |
| - Madagascar | 1966,1973 |
| - Maurice | 1976 |
| - Tanzanie | 1970 |
| - Zambie | 1973 |

ANNEXE II

## Classification des activités destinées aux tableaux entrées-sorties

| N° | Branche d'activité de la CEA | Numéro de code de la CITI (1) |
|---|---|---|
| 1 | Agriculture, chasse, sylviculture et pêche | Branche 1 |
| 2 | Extraction du charbon, pétrole brut et gaz naturel | 21,22 |
| 3 | Autres industries extractives | 23,29 |
| 4 | Fabrication de produits alimentaires | 311,312 |
| 5 | Boissons et tabacs | 313,314 |
| 6 | Industrie des textiles et fabrication d'articles d'habillement | 321,322 |
| 7 | Fabrication des chaussures et industries du cuir | 323,324 |
| 8 | Industries du bois et fabrication d'ouvrages en bois, fabrication de papier et d'articles en papier; imprimerie, édition | 33,34 |
| 9 | Industrie chimique et fabrication de produits chimiques, à l'exclusion des dérivées du pétrole et du charbon | 35,sauf 354 |
| 10 | Industries des dérivées du pétrole et du charbon | 354 |
| 11 | Fabrication de produits minéraux non métalliques | 36 |
| 12 | Industrie métallurgique de base et fabrication d'ouvrages en métaux, de machines et de matériel | 37,38 |
| 13 | Autres industries manufacturières | 39 |
| 14 | Electricité, gaz, eau | Branche 4 |
| 15 | Bâtiments et travaux publics | Branche 5 |
| 16 | Commerce de gros et de détail | 61,62 |
| 17 | Transports, entrepôts et communications | Branche 7 |

ANNEXE II (suite)

| N° | Branche d'activité de la CEA | Numéro de code de la CITI (1) |
|---|---|---|
| 18 | Administrations publiques | 21 |
| 19 | Services | 63, branches 8 et 9, plus branche fictive des institutions de crédit (2) |
| 20 | Activités mal désignées | Branche 0 |

1) Classification internationale type, par industrie, de toutes les branches d'activité économique (CITI), études statistiques série M, N°.4, Rev.2 bureau de statistique des Nations Unies.

2) Cette branche fictive ne figure pas dans la CITI

ANNEXE III

## EVALUATION DES FLUX DE BIENS ET SERVICES DANS LES TABLEAUX ENTREES-SORTIES DES PAYS AFRICAINS

Pour l'évaluation des flux de biens et services dans le tableau entrées-sorties, il existe trois types de prix, qui diffèrent de plus, selon qu'il s'agit de produits de la production intérieure ou des produits importés.

Pour les produits de la production intérieure on distingue :

- le prix de base
- le prix départ-usine
- le prix d'acquisition

Pour les produits importés, on distingué :

- le prix CAF (correspondant au prix de base)
- le prix départ-douane (correspondant au prix départ-usine)
- le prix d'acquisition.

### 1. Le prix de base et le prix CAF

Le prix de base d'un produit d'origine intérieure est le prix de ce produit diminué des impôts indirects nets des subventions qui le frappent directement.

Pour un produit importé, l'équivalent du prix de base est le prix CAF; c'est celui auquel sont enregistrés les produits importés dans les statistiques du commerce extérieur, à la frontière du pays importateur.

Ainsi, le tableau entrées-sorties aux prix de base/CAF se compose de :

- un tableau des échanges intermédiaires évalués à un prix qui ne comprend ni les "impôts nets liés à la production ni "les droits et taxes nets à l'importation " qui affectent respectivement les produits d'origine intérieure et les produits importés. Dans ce tableau, les marges commerciales (services de commerce) et les frais de transport des marchandises (services de transports de marchandises) apparaissent sur des lignes distinctes.

- un tableau des emplois finals évalués à un prix qui ne comprend pas les impôts indirects nets qui affectent directement les produits d'origine intérieure et les produits importés.

ANNEXE III (suite)

- un tableau des entrées primaires et des ressources où les lignes "impôts indirects nets liés à la production" et "droits et taxes nets sur importations" comprennent les impôts nets frappant directement l'ensemble des entrées intermédiaires de chaque branche.

2. Le prix départ-usine et le prix départ-douane

Le prix départ-usine est le prix de base augmenté des impôts indirects nets qui frappent directement les produits d'origine intérieure, sur les sorties de la branche productrice.

Pour un produit importé, l'équivalent du prix départ-usine est le prix départ-douane. Il est égal au prix CAF augmenté des "impôts nets liés à l'importation".

Le tableau entrées-sorties aux prix départ usine/départ-douane douane se compose de :

- un tableau des échanges intermédiaires évalués à un prix qui comprend les "impôts nets liés à la production" et les "impôts nets liés à l'importation" qui affectent directement les produits d'origine intérieure et les produits importés. Comme précédemment, les marges commerciales et les frais de transport apparaissent sur des lignes distinctes du tableau.

- un tableau des emplois finals évalués à un prix qui comprend les impôts nets frappant les produits d'origine intérieure et les produits importés.

- un tableau des entrées primaires et des ressources où apparaissent respectivement les "impôts nets liés à la production" sur les sorties des branches et les "impôts nets liés à l'importation".

3. Le prix d'acquisition

Le prix d'acquisition est le prix globalement payé par l'utilisateur. Pour les produits utilisés sur le territoire, le prix d'acquisition est le prix départ-usine ou prix départ-douane, augmenté des coûts de distribution (marges commerciales et frais de transport).

ANNEXE III (suite)

Le tableau entrées-sorties aux prix d'acquisition se compose donc de :

- un tableau des échanges intermédiaires évalué au prix départ-usine ou départ-douane augmenté des marges commerciales et des frais de transport affectés à chaque entrée intermédiaire.

- un tableau des emplois finals évalués à un prix départ-usine/départ-douane augmenté des marges commerciales et des frais de transport.

- un tableau des entrées primaires et des ressources où apparaît une ligne correctrice ventilant les coûts de distribution pour réaliser l'équilibre ressources-emplois par produit. Elle constitue l'élément de passage des prix départ-usine/départ-douane aux prix d'acquisition.

Dans le tableau I, les échanges intermédiaires et le tableau II des emplois finals, les lignes "services de commerce" et "services de transport des marchandises" disparaissent puisqu'ils sont déjà répartis sur chaque flux intermédiaire et final.

## SUMMARY IN ENGLISH

The paper deals with input-output tables published by some African countries. The tables are presented in a harmonized form. The general framework of the presentation of the data is given in three tables namely:

Table 1 which deals with intermediate flows;

Table 2 (on the right hand of table 1) shows the final demand by categories and the total uses of the product;

Table 3 (below table 1) indicates the primary inputs and the total resources of such industry.

The rows of table 1 and 2 show for each product or group of products the uses by:

- intermediate products consumed by each industry and
- expenditure, public consumption expenditure, gross fiscal capital formation, change in stocks and exports.

The row total corresponds to the total use of the product or the group of products or entering into the process of production, household consumption, exports or planned for investment.

The colums of tables 1 and 2 give for each industry:

- intermediate goods
- primary inputs: salaries, interests, taxes less subsidies, consumption of capital, profits
- value of domestic production and
- value of imports

The column totals include the cost of production of the product or group of products and the value of imports.

The ECA harmonized input-output tables follow the concepts and definitions of the System of National Account (SNA) of the United Nations. But due to lack of information the system of valuation is the same as it is in the national publications.

The tables presented in this paper relate to one African country in each ECA sub-region namely Morocco representing North Africa, Côte d'Ivoire representing West Africa, Chad representing Central Africa and Kenya representing Eastern and Southern Africa. Before presenting each table, there is a note explaining the method used and the solutions adopted by ECA in compiling the harmonized input-output tables. The remaining country tables will be published in the next issue (Bulletin No. 19) of this publication.

## COTE D'IVOIRE

Sources: Tableau Entrées - Sorties pour les années 1974 et 1978 de la République de Côte d'Ivoire. Comptes de la Nation, années 1974 et 1978. Ministère du Plan, Direction des études de developpement.

Agrégation: L'agrégation des 33 branches d'activité des tableaux nationaux initiaux dans les 20 branches d'activité de la CEA a été faite selon le tableau de correspondance ci-dessous:

| Branches d'activité de la CEA | Branches d'activité correspondantes de la classification nationale | |
|---|---|---|
| | 1974 | 1978 |
| 1 | 1, 2, 3, 4 | 1, 2, 3, 4 |
| 2 | - | - |
| 3 | 5 | 5 |
| 4 | 6, 7, 9, 10* | 6, 7, 9, 10* |
| 5 | 8 | 8 |
| 6 | 11 | 11 |
| 7 | 12 | 12 |
| 8 | 13 | 13 |
| 9 | 15, 16 | 15,16 |
| 10 | 14 | 34 |
| 11 | 17 | 37 |
| 12 | 18, 19, 20 | 18, 19, 20 |
| 13 | 21 | 21 |
| 14 | 22 | 22 |
| 15 | 23 | 23 |
| 16 | 27 | 27 |
| 17 | 24 | 24 |
| 18 | Services des administrations publiques | 31 |
| 19 | 25, 26, services bancaires, production imputée des services bancaires, services d'assurances, services des administrations privées, services domestiques | 25, 26, 28, 29, 30 32, 33 |
| 20 | - | - |

*Note: la branche 10 de la classification nationale inclut le "Tabac"

Système de prix: au prix d'acquisition

Systeme de production: la branche "Commerce" n'inclut pas les droits et taxes sur importations.

la ligne 31 du tableau de la CEA ventille les couts de distribution pour réaliser l'équilibre resources emplois par produit.

Million C.F.A. Francs — IVORY COAST — 1974 — COTE D'IVOIRE — Million de Francs C.F.A.

| GOODS AND SERVICES — INPUTS / USES | | INTERMEDIATE CONSUMPTION — CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non metalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| 1 Agriculture Forestry Fishing | T | 9,797 | | | 45,164 | 116 | 5,560 | | 6,103 | 2,957 | | | | | | | 1 |
| | D | ... | | | ... | ... | ... | | ... | ... | | | | | | | |
| | I | ... | | | ... | ... | ... | | ... | ... | | | | | | | |
| 2 Coal, Crude petroleum, natural gas | T | | | | | | | | | | | | | | | | 2 |
| | D | | | | | | | | | | | | | | | | |
| | I | | | | | | | | | | | | | | | | |
| 3 Other mining and quarrying | T | | | | 56 | | | | | 638 | 26,662 | 171 | | | | 2,378 | 3 |
| | D | | | | ... | | | | | ... | ... | ... | | | | ... | |
| | I | | | | ... | | | | | ... | ... | ... | | | | ... | |
| 4 Food manufacturing | T | 2,974 | | | 43,623 | 935 | 4 | 156 | | 2,094 | | | | | | | 4 |
| | D | ... | | | ... | ... | ... | ... | | ... | | | | | | | |
| | I | ... | | | ... | ... | ... | ... | | ... | | | | | | | |
| 5 Beverages and Tobacco | T | 84 | | | | 699 | | | | | | | | | | | 5 |
| | D | ... | | | | ... | | | | | | | | | | | |
| | I | ... | | | | ... | | | | | | | | | | | |
| 6 Textiles and Clothing | T | 318 | | 1 | 203 | | 3,919 | 78 | 22 | 31 | | | 50 | 19 | 3 | 57 | 6 |
| | D | ... | | ... | ... | | ... | ... | ... | ... | | | ... | ... | ... | ... | |
| | I | ... | | ... | ... | | ... | ... | ... | ... | | | ... | ... | ... | ... | |
| 7 Footwear and manufacture of leather | T | | | | | | | 198 | | | | | | | | | 7 |
| | D | | | | | | | ... | | | | | | | | | |
| | I | | | | | | | ... | | | | | | | | | |
| 8 Wood products paper and printing | T | 28 | | | 366 | 68 | 24 | | 3,607 | 35 | | | 181 | 24 | | 6,300 | 8 |
| | D | ... | | | ... | ... | ... | | ... | ... | | | ... | ... | | ... | |
| | I | ... | | | ... | ... | ... | | ... | ... | | | ... | ... | | ... | |
| 9 Chemicals | T | 5,761 | | 34 | 522 | 405 | 2,651 | 822 | 396 | 7,668 | 402 | 73 | 1,439 | 257 | 222 | 4,409 | 9 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 10 Petroleum and coal products | T | 5,700 | | 443 | 1,547 | 164 | 530 | 10 | 1,175 | 216 | 385 | 58 | 365 | 46 | 2,471 | 2,521 | 10 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 11 Non-metallic mineral products | T | 161 | | 4 | 200 | 228 | 4 | | 19 | 100 | 1 | 4,295 | 16 | 2 | 94 | 11,767 | 11 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 12 Basic metal industries, metal products machinery, equipment | T | 8,330 | | 640 | 5,841 | 476 | 1,074 | 61 | 1,834 | 1,197 | 849 | 270 | 24,795 | 650 | 1,215 | 19,149 | 12 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 13 Other manufacturing industries | T | 780 | | 5 | 1,635 | 175 | 265 | 105 | 335 | 800 | 19 | 433 | 614 | 3,903 | 186 | 665 | 13 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 14 Electricity gas and water | T | 166 | | 11 | 827 | 186 | 622 | 51 | 358 | 391 | 42 | 126 | 773 | 88 | 354 | 356 | 14 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 15 Building and other constructions | T | 390 | | 20 | 424 | 17 | 54 | 6 | 40 | 56 | 10 | 13 | 93 | 26 | 93 | 7,634 | 15 |
| | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |

Million C.F.A. Francs — IVORY COAST — 1974 — COTE D'IVOIRE — Million de Francs C.F.A.

| | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | FINAL USE / EMPLOIS FINALS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and Communication<br>Transport et Communication | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>Formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES EMPLOIS FINALS | Statistical Adjustment<br>Ajustement Statistique | TOTAL USES<br>TOTAL DES EMPLOIS | | EMPLOIS / ENTREES | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | |
| 1 | | | | | | 67,697<br>...<br>... | 110,613<br>...<br>... | | | -5,056<br>...<br>... | 196,610<br>...<br>... | 302,187<br>...<br>... | | 369,884<br>...<br>... | T D I | 1 | Agriculture<br>Sylviculture<br>Pêche |
| 2 | | | | | | | | | | | | | | | T D I | 2 | Charbon, Pétrole brut, gaz naturel |
| 3 | | 7<br>...<br>... | | | | 29,912<br>...<br>... | | | | 1,460<br>...<br>... | 1,603<br>...<br>... | 3,063<br>...<br>... | | 32,975<br>...<br>... | T D I | 3 | Autres Industries extractives |
| 4 | | | 2,726<br>...<br>... | 38<br>...<br>... | | 22,550<br>...<br>... | 87,314<br>...<br>... | | | 5,019<br>...<br>... | 50,243<br>...<br>... | 142,576<br>...<br>... | | 165,126<br>...<br>... | T D I | 4 | Produits alimentaires |
| 5 | | | 944<br>...<br>... | 24<br>...<br>... | | 1,740<br>...<br>... | 23,761<br>...<br>... | | | 34<br>...<br>... | 2,250<br>...<br>... | 26,045<br>...<br>... | | 27,785<br>...<br>... | T D I | 5 | Boissons et tabacs |
| 6 | 2,907<br>...<br>... | 71<br>...<br>... | 1,492<br>...<br>... | 112<br>...<br>... | | 14,382<br>...<br>... | 41,670<br>...<br>... | | | 1,198<br>...<br>... | 11,908<br>...<br>... | 54,776<br>...<br>... | | 69,158<br>...<br>... | T D I | 6 | Textiles Habillement |
| 7 | | | 93<br>...<br>... | 1<br>...<br>... | | 232<br>...<br>... | 7,129<br>...<br>... | | | -41<br>...<br>... | 655<br>...<br>... | 7,743<br>...<br>... | | 7,975<br>...<br>... | T D I | 7 | Chaussures et industries du cuir |
| 8 | 39<br>...<br>... | 69<br>...<br>... | 1,313<br>...<br>... | 500<br>...<br>... | | 12,254<br>...<br>... | 1,247<br>...<br>... | | | 1<br>...<br>... | 14,460<br>...<br>... | 15,708<br>...<br>... | | 27,962<br>...<br>... | T D I | 8 | Bois, papier et impression |
| 9 | 1,048<br>...<br>... | 3,446<br>...<br>... | 1,993<br>...<br>... | 506<br>...<br>... | | 32,124<br>...<br>... | 27,081<br>...<br>... | | | 5,076<br>...<br>... | 7,456<br>...<br>... | 39,613<br>...<br>... | | 71,737<br>...<br>... | T D I | 9 | Produits chimiques |
| 10 | 919<br>...<br>... | 16,570<br>...<br>... | 3,588<br>...<br>... | 647<br>...<br>... | | 37,508<br>...<br>... | 10,528<br>...<br>... | | | 299<br>...<br>... | 13,028<br>...<br>... | 23,855<br>...<br>... | | 61,163<br>...<br>... | T D I | 10 | Dérivées du Charbon et du pétrole |
| 11 | 117<br>...<br>... | 64<br>...<br>... | 272<br>...<br>... | 27<br>...<br>... | | 17,365<br>...<br>... | 2,314<br>...<br>... | | | 331<br>...<br>... | 1,100<br>...<br>... | 3,745<br>...<br>... | | 21,110<br>...<br>... | T D I | 11 | Produits minéraux non métalliques |
| 12 | 2,511<br>...<br>... | 11,810<br>...<br>... | 9,754<br>...<br>... | 1,771<br>...<br>... | | 91,667<br>...<br>... | 29,540<br>...<br>... | | 59,362<br>...<br>... | 10,125<br>...<br>... | 9,874<br>...<br>... | 108,901<br>...<br>... | | 200,568<br>...<br>... | T D I | 12 | Métallurgie de base, métaux machines, matériel |
| 13 | 3,957<br>...<br>... | 1,234<br>...<br>... | 6,864<br>...<br>... | 2,215<br>...<br>... | | 24,112<br>...<br>... | 1,222<br>...<br>... | | | 684<br>...<br>... | 1,393<br>...<br>... | 3,299<br>...<br>... | | 27,411<br>...<br>... | T D I | 13 | Autres industries manufacturières |
| 14 | 1,926<br>...<br>... | 1,162<br>...<br>... | 3,303<br>...<br>... | 2,101<br>...<br>... | | 52,425<br>...<br>... | 2,280<br>...<br>... | | | | | 2,280<br>...<br>... | | 54,705<br>...<br>... | T D I | 14 | Electricité eau, gaz |
| 15 | 1,085<br>...<br>... | 661<br>...<br>... | 4,169<br>...<br>... | 1,622<br>...<br>... | | 16,464<br>...<br>... | 236<br>...<br>... | | 84,293<br>...<br>... | | | 84,529<br>...<br>... | | 100,993<br>...<br>... | T D I | 15 | Bâtiments et travaux publics |

BIENS ET SERVICES

Million C.F.A. Francs — IVORY COAST — 1974 — COTE D'IVOIRE — Million de Francs C.F.A.

| INPUTS \ USES | | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | | | | | | | | | | | | | | | | 16 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 17 Transport and Communication | T | 17,391 | | 282 | 1,574 | 72 | 798 | 65 | 1,545 | 190 | 61 | 56 | 661 | 116 | 333 | 2,213 | 17 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other Services | T | 4,563 | | 301 | 5,368 | 367 | 1,200 | 172 | 1,874 | 1,171 | 347 | 251 | 2,474 | 412 | 909 | 5,661 | 19 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 20 Unallocated items and statistical adjustment | T | | | | | | | | | | | | | | | | 20 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 56,445 | | 1,741 | 75,150 | 5,902 | 20,683 | 1,662 | 17,240 | 17,614 | 29,468 | 5,753 | 31,059 | 5,419 | 5,803 | 62,842 | 21 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | | | | | | | | | | | | | | | | 22 |
| | 23 Compensation of employees | | 23,276 | | 819 | 7,403 | 1,118 | 4,415 | 594 | 4,978 | 2,285 | 586 | 563 | 6,630 | 1,496 | 2,931 | 21,678 | 23 |
| | 24 Indirect taxes less subsidies | | 5,059 | | 357 | 8,076 | 1,154 | 2,993 | 168 | 970 | 512 | 13,630 | 856 | 1,843 | 231 | 1,650 | 5,059 | 24 |
| | 25 Other incomes | | 164,908 | | 674 | 20,765 | 1,372 | 7,812 | 352 | 5,442 | 2,424 | 1,175 | 917 | 7,047 | 2,258 | 4,521 | 11,414 | 25 |
| | 26 Gross value added | | 193,243 | | 1,850 | 36,244 | 3,644 | 15,220 | 1,114 | 9,390 | 5,021 | 15,339 | 2,236 | 15,520 | 3,985 | 8,902 | 38,151 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 249,686 | | 3,591 | 111,394 | 7,546 | 35,903 | 2,776 | 26,630 | 22,635 | 44,807 | 7,989 | 46,579 | 9,404 | 14,705 | 100,993 | 27 |
| | 28 Imports CIF | | 17,428 | | 28,993 | 35,490 | 7,120 | 15,159 | 2,129 | 655 | 28,808 | 3,499 | 8,512 | 93,449 | 11,512 | | | 28 |
| | 29 Imports duties | | 794 | | 129 | 4,935 | 4,619 | 5,409 | 984 | 304 | 7,613 | 495 | 1,603 | 22,672 | 1,976 | | | 29 |
| | 30 Imports, included duties | | 18,222 | | 29,122 | 40,325 | 11,739 | 20,548 | 3,113 | 939 | 36,421 | 3,994 | 10,115 | 116,121 | 13,488 | | | 30 |
| | 31 Statistical adjustment | | 101,976 | | 262 | 13,407 | 8,900 | 12,707 | 2,046 | 595 | 12,681 | 12,302 | 3,006 | 57,668 | 4,519 | | | 31 |
| | 32 TOTAL RESOURCES | | 369,884 | | 32,975 | 165,126 | 27,785 | 69,158 | 7,975 | 27,962 | 71,737 | 61,163 | 21,110 | 200,368 | 27,411 | 14,705 | 100,993 | 32 |

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Million C.F.A. Francs — IVORY COAST — 1974 — COTE D'IVOIRE — Million de Francs C.F.A.

| | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | FINAL USES / EMPLOIS FINALS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and communication<br>Transports et communication | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES EMPLOIS FINALS | Statistical Adjustment<br>Ajustement statistique | TOTAL USES<br>TOTAL DES EMPLOIS | EMPLOIS / ENTREES | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| 16 | | | | | | | | | | | | | | | T D I | 16 Commerce de gros et de détail |
| 17 | 25,053<br>...<br>... | 11,045<br>...<br>... | 6,962<br>...<br>... | 2,358<br>...<br>... | | 68,753<br>...<br>... | 35,694<br>...<br>... | | | | 23,915<br>...<br>... | 59,609<br>...<br>... | | 128,362<br>...<br>... | T D I | 17 Transports et communications |
| 18 | | | | | | | | 118,688<br>118,688<br>— | | | | 118,688<br>118,688<br>— | | 118,688<br>118,688<br>— | T D I | 18 Administrations publiques |
| 19 | 16,932<br>...<br>... | 8,170<br>...<br>... | 9,833<br>...<br>... | 22,978<br>...<br>... | | 80,983<br>...<br>... | 29,062<br>...<br>... | | | | 5,148<br>...<br>... | 29,210<br>...<br>... | | 110,193<br>...<br>... | T D I | 19 Autres services |
| 20 | | | | | | | | | | | | | | | T D I | 20 Activités mal désignées et ajustement statistique |
| 21 | 53,594<br>... | 53,809<br>... | 53,106<br>... | 34,880<br>... | | 550,168<br>... | 406,491<br>... | 118,688<br>118,688 | 143,651<br>... | 19,250<br>... | 337,643<br>... | 1,825,627<br>... | | 1,555,795<br>... | T D I | 21 TOTAL DES ENTREES DE BIENS ET SERVICES |
| 22 | | ... | | | | ... | | | | | | | | | | 22 Consommation brute de capital fixe |
| 23 | 37,667 | 32,690 | 64,647 | 22,364 | | 236,140 | | | | | | | | | | 23 Rémunération des salariés |
| 24 | 61,367 | 2,716 | 935 | 5,747 | | 113,131 | | | | | | | | | | 24 Impots indirects moins subventions |
| 25 | 57,079 | 28,170 | | 24,286 | | 338,316 | | | | | | | | | | 25 Autres revenus |
| 26 | 156,113 | 63,576 | 65,582 | 52,397 | | 687,587 | | | | | | | | | | 26 Valeur ajoutée brute |
| 27 | 209,707 | 117,385 | 118,688 | 87,277 | | 1,217,755 | | | | | | | | | | 27 PRODUCTION BRUTE |
| 28 | | 10,977 | | 22,916 | | 286,607 | | | | | | | | | | 28 Importations CAF |
| 29 | | | | | | 51,433 | | | | | | | | | | 29 Droits et taxes sur importations |
| 30 | | 10,977 | | 22,916 | | 336,040 | | | | | | | | | | 30 Importations, y compris droits et taxes |
| 31 | -209,707 | | | | | - | | | | | | | | | | 31 Ajustement statistique |
| 32 | - | 128,362 | 118,688 | 110,193 | | 1,555,795 | | | | | | | | | | 32 RESSOURCES TOTALES |

NOTE: T - Total inputs
D - Domestically produced inputs
I - Imported inputs

NOTE: T - Entrées totales
D - Entrées d'origine intérieur
I - Entrées importées

BIENS ET SERVICES / ENTREES PRIVEES / RESSOURCES

Million C.F.A. Francs — IVORY COAST — 1978 — COTE D'IVOIRE — Million de Francs C.F.A

GOODS AND SERVICES

| | INPUTS / USES | | 1 Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | 2 Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | 3 Other mining and quarrying<br>Autres Industries extractives | 4 Food manufacturing<br>Produits alimentaires | 5 Beverages and tobacco<br>Boissons et tabacs | 6 Textiles and Clothing<br>Textiles et Habillement | 7 Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | 8 Wood products paper and printing<br>Bois, papier et impression | 9 Chemicals<br>Produits chimiques | 10 Petroleum and coal products<br>Dérivées du charbon et du pétrole | 11 Non metallic mineral products<br>produits minéraux non metalliques | 12 Basic metal<br>Métallurgie de base | 13 Other Manufacturing Industries<br>Autres industries manufacturières | 14 Electricity gas and water<br>Electricité eau et gaz | 15 Buildings and other construction<br>Bâtiment et travaux Publics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Agriculture Forestry Fishing | T | 29,152 | | | 99,455 | 222 | 8,878 | | 13,694 | 3,554 | | | | | | | 1 |
| | | D | ... | | | ... | ... | ... | | ... | ... | | | | | | | |
| | | I | ... | | | ... | ... | ... | | ... | ... | | | | | | | |
| 2 | Coal, Crude petroleum, natural gas | T | | | | | | | | | | | | | | | | 2 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| 3 | Other mining and quarrying | T | 44 | | | | | | | | 76 | 38,111 | 496 | | | | 15,511 | 3 |
| | | D | ... | | | | | | | | ... | ... | ... | | | | ... | |
| | | I | ... | | | | | | | | ... | ... | ... | | | | ... | |
| 4 | Food manufacturing | T | 4,982 | | | 24,607 | 2,860 | | 245 | 17 | 2,299 | | | | | | | 4 |
| | | D | ... | | | ... | ... | | ... | ... | ... | | | | | | | |
| | | I | ... | | | ... | ... | | ... | ... | ... | | | | | | | |
| 5 | Beverages and Tobacco | T | 229 | | | | 2,052 | | | | | | | | | | | 5 |
| | | D | ... | | | | ... | | | | | | | | | | | |
| | | I | ... | | | | ... | | | | | | | | | | | |
| 6 | Textiles and Clothing | T | 295 | | | 1,073 | | 22,288 | 194 | 231 | 293 | | | 67 | 28 | 77 | 73 | 6 |
| | | D | ... | | | ... | | ... | ... | ... | ... | | | ... | ... | ... | ... | |
| | | I | ... | | | ... | | ... | ... | ... | ... | | | ... | ... | ... | ... | |
| 7 | Footwear and manufacture of leather | T | | | | 29 | | | 397 | | | | | | | | | 7 |
| | | D | | | | ... | | | ... | | | | | | | | | |
| | | I | | | | ... | | | ... | | | | | | | | | |
| 8 | Wood products paper and printing | T | 947 | | | 627 | 504 | 12 | | 6,161 | 116 | | | 570 | 41 | | 15,749 | 8 |
| | | D | ... | | | ... | ... | ... | | ... | ... | | | ... | ... | | ... | |
| | | I | ... | | | ... | ... | ... | | ... | ... | | | ... | ... | | ... | |
| 9 | Chemicals | T | 17,186 | | 606 | 2,500 | 1,220 | 5,550 | 1,637 | 1,950 | 17,705 | 1,662 | 134 | 2,933 | 1,221 | 523 | 13,917 | 9 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 10 | Petroleum and coal products | T | 5,644 | | 1,434 | 4,398 | 523 | 1,325 | 18 | 3,041 | 612 | 6,270 | 259 | 1,198 | 135 | 8,643 | 14,879 | 10 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 11 | Non-metallic mineral products | T | 283 | | 13 | 236 | 482 | 15 | 6 | 99 | 250 | 3 | 7,888 | 33 | 7 | 69 | 37,012 | 11 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 12 | Basic metal industries, metal products machinery, equipment | T | 11,815 | | 2,069 | 10,880 | 1,357 | 3,198 | 151 | 4,362 | 2,568 | 1,854 | 1,137 | 53,210 | 1,156 | 2,706 | 74,120 | 12 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 13 | Other manufacturing industries | T | 1,116 | | 142 | 6,320 | 864 | 803 | 179 | 340 | 1,518 | 43 | 1,070 | 1,824 | 6,010 | 535 | 3,480 | 13 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 14 | Electricity gas and water | T | 428 | | 47 | 2,122 | 517 | 1,812 | 71 | 416 | 896 | 166 | 764 | 681 | 195 | 577 | 1,590 | 14 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 15 | Building and other constructions | T | 366 | | 1 | 526 | 37 | 212 | 3 | 92 | 179 | 12 | 58 | 119 | 123 | 624 | 54,067 | 15 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |

Million C.F.A. Francs — IVORY COAST — 1978 — COTE D'IVOIRE — Million de Francs C.F.A.

| | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | FINAL USE / EMPLOIS FINALS | | | | | | | TOTAL USES / TOTAL DES EMPLOIS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade / Commerce de gros et de détail | Transport and Communication / Transport et Communication | Public Administration / Administration publique | Other Services / Autres Services | Unallocated items and statistical adjustment / Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION / TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption / Consommation privée | Public Consumption / Consommation publique | Gross fixed capital formation / Formation brute de capital fixe | Changes in stocks / Variation de stocks | Exports / Exportations | TOTAL FINAL USES / TOTAL DES EMPLOIS FINALS | Statistical Adjustment / Ajustement Statistique | | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | ENTREES |
| 1 | | | | 1,369 | | 155,324 | 301,262 | | | -4,359 | 419,853 | 716,256 | | 871,580 | T D I | 1 | Agriculture Sylviculture Pêche |
| 2 | | | | | | | | | | | | | | | T D I | 2 | Charbon, Pétrole brut, gaz naturel |
| 3 | | | | | | 54,238 | | | | 10 | 17 | 27 | | 54,265 | T D I | 3 | Autres Industries extractives |
| 4 | | | 2,127 | 1,624 | | 38,711 | 185,751 | | | -2,713 | 85,859 | 268,897 | | 307,608 | T D I | 4 | Produits alimentaires |
| 5 | | | 158 | | | 2,439 | 50,380 | | | 100 | 315 | 50,795 | | 53,234 | T D I | 5 | Boissons et tabacs |
| 6 | 3,598 | 145 | 5,616 | 153 | | 34,121 | 74,005 | | | 4,017 | 19,774 | 97,796 | | 131,917 | T D I | 6 | Textiles Habillement |
| 7 | | | 443 | 7 | | 876 | 17,986 | | | 24 | 648 | 18,658 | | 19,534 | T D I | 7 | Chaussures et industries du cuir |
| 8 | 49 | 9 | 3,929 | 805 | | 29,318 | 5,056 | | | | 16,609 | 21,664 | | 50,982 | T D I | 8 | Bois, papier et impression |
| 9 | 899 | 6,644 | 5,952 | 2,335 | | 84,034 | 65,705 | | | 59 | 9,367 | 75,131 | | 159,165 | T D I | 9 | Produits chimiques |
| 10 | 3,384 | 30,566 | 7,988 | 1,660 | | 91,966 | 19,648 | | | 181 | 19,981 | 39,688 | | 131,654 | T D I | 10 | Dérivées du Charbon et du pétrole |
| 11 | 213 | 54 | 534 | 211 | | 47,413 | 3,257 | | | 299 | 488 | 4,044 | | 51,457 | T D I | 11 | Produits minéraux non métalliques |
| 12 | 5,996 | 21,207 | 37,490 | 4,124 | | 239,340 | 81,026 | | 190,909 | 11,100 | 13,259 | 296,193 | | 535,573 | T D I | 12 | Métallurgie de base, métaux machines, matériel |
| 13 | 5,346 | 3,194 | 9,243 | 5,392 | | 47,223 | 5,518 | | | -6,364 | 3,588 | 2,142 | | 49,365 | T D I | 13 | Autres industries manufacturières |
| 14 | 4,839 | 2,557 | 4,388 | 5,746 | | 27,812 | 6,997 | | | | 580 | 7,577 | | 35,389 | T D I | 14 | Electricité eau, gaz |
| 15 | 2,348 | 1,119 | 14,748 | 9,845 | | 84,479 | 720 | | 336,233 | | 734 | 339,687 | | 424,166 | T D I | 15 | Bâtiments et travaux publics |

BIENS ET SERVICES

Million C.F.A. francs — IVORY COAST — 1975 — COTE D'IVOIRE — Million de francs C.F.A.

| INPUTS / USES | | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products, paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | | | | | | | | | | | | | | | | 16 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 17 Transport and Communication | T | 13,494 | | 1,438 | 1,862 | 89 | 803 | 86 | 745 | 518 | 146 | 134 | 1,078 | 254 | 781 | 9,218 | 17 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other Services | T | 6,640 | | 1,641 | 13,201 | 1,209 | 4,910 | 390 | 1,970 | 3,196 | 1,197 | 674 | 6,336 | 1,235 | 1,677 | 37,184 | 19 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 20 Unallocated items and statistical adjustment | T | | | | | | | | | | | | | | | | 20 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 92,576 | | 7,391 | 166,836 | 12,843 | 49,806 | 3,377 | 33,118 | 33,780 | 49,464 | 12,614 | 67,903 | 10,405 | 16,012 | 276,799 | 21 |
| | | D | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption / | | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 22 |
| | 23 Compensation of employees | | 41,671 | | 2,583 | 20,235 | 3,185 | 12,950 | 896 | 11,482 | 5,334 | 1,541 | 1,721 | 13,733 | 2,796 | 9,309 | 62,058 | 23 |
| | 24 Indirect taxes less subsidies | | -5,502 | | 1,790 | 1,140 | 2,802 | 2,712 | 335 | 5,172 | 421 | 26,620 | 1,368 | 4,920 | 854 | 2,355 | 11,230 | 24 |
| | 25 Other incomes | | 419,732 | | 2,696 | 17,769 | 2,139 | 13,333 | 730 | -3,114 | 6,852 | 5,502 | 2,107 | 14,811 | 4,699 | 7,537 | 71,945 | 25 |
| | 26 Gross value added | | 455,901 | | 7,059 | 39,144 | 8,126 | 28,995 | 1,961 | 13,540 | 12,587 | 33,663 | 5,196 | 33,464 | 8,329 | 18,201 | 145,233 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 548,477 | | 14,450 | 205,980 | 20,969 | 78,801 | 5,338 | 46,658 | 46,367 | 83,127 | 17,810 | 101,367 | 18,734 | 34,213 | 422,032 | 27 |
| | 28 Imports CIF | | 25,645 | | 39,238 | 51,791 | 8,703 | 20,432 | 5,755 | 2,516 | 60,001 | 15,055 | 18,520 | 280,577 | 20,323 | 1,176 | 2,134 | 28 |
| | 29 Imports duties | | 2,176 | | 270 | 10,361 | 9,426 | 7,672 | 3,135 | 694 | 18,449 | 4,925 | 4,446 | 60,258 | 3,897 | | | 29 |
| | 30 Imports, included duties | | 27,821 | | 39,508 | 62,152 | 18,129 | 28,104 | 8,890 | 3,210 | 78,450 | 19,980 | 22,966 | 340,835 | 24,220 | | | 30 |
| | 31 Statistical adjustment | | 295,282 | | 307 | 39,476 | 14,136 | 25,012 | 5,306 | 1,114 | 34,348 | 28,547 | 10,681 | 93,371 | 6,411 | | | 31 |
| | 32 TOTAL RESOURCES | | 871,580 | | 54,265 | 307,608 | 53,234 | 131,917 | 19,534 | 50,982 | 159,165 | 131,654 | 51,457 | 535,573 | 49,365 | 35,389 | 424,166 | 32 |



080-V868

Million C.F.A. Francs — IVORY COAST — 1978 — COTE D'IVOIRE — Million de Francs C.F.A.

| | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | FINAL USES / EMPLOIS FINALS | | | | | | Statistical Adjustment | TOTAL USES | EMPLOIS / ENTREES | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and communication<br>Transports et communication | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES EMPLOIS FINALS | Ajustement Statistique | TOTAL DES EMPLOIS | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | |
| 16 | | | | | | | | | | | | | | | T D I | 16 | Commerce de gros et de détail |
| 17 | 55,204<br>...<br>... | 26,427<br>...<br>... | 19,879<br>...<br>... | 6,385<br>...<br>... | | 139,448<br>...<br>... | 85,017<br>...<br>... | | | | 53,424<br>...<br>... | 138,441<br>...<br>... | | 277,889<br>...<br>... | T D I | 17 | Transports et communications |
| 18 | | | | | | | | 287,206<br>287,206<br>- | | | | 287,206<br>287,206<br>- | | 287,206<br>287,206<br>- | T D I | 18 | Administrations publiques |
| 19 | 34,809<br>...<br>... | 20,886<br>...<br>... | 25,930<br>...<br>... | 76,662<br>...<br>... | | 239,027<br>...<br>... | 80,996<br>...<br>... | | | | 5,152<br>...<br>... | 86,148<br>...<br>... | | 325,175<br>...<br>... | T D I | 19 | Autres services |
| 20 | | | | | | | | | | | | | | | T D I | 20 | Activités mal désignées et ajustement statistique |
| 21 | 116,745<br>...<br>... | 111,408<br>...<br>... | 138,414<br>...<br>... | 116,318<br>...<br>... | | 1,315,809<br>...<br>... | 981,522<br>...<br>... | 287,206<br>287,206<br>- | 529,041<br>...<br>... | 1,754<br>...<br>... | 651,027<br>...<br>... | 2,450,350<br>...<br>... | | 3,766,159<br>...<br>... | T D I | 21 | TOTAL DES ENTREES DE BIENS ET SERVICES |
| 22 | ... | ... | ... | ... | | ... | | | | | | | | | | 22 | Consommation brute de capital fixe |
| 23 | 81,210 | 76,206 | 144,219 | 54,501 | | 544,630 | | | | | | | | | | 23 | Rémunération des salariés |
| 24 | 242,928 | 3,524 | 4,573 | 15,668 | | 322,980 | | | | | | | | | | 24 | Impots indirects moins subventions |
| 25 | 113,108 | 55,062 | | 54,901 | | 789,789 | | | | | | | | | | 25 | Autres revenus |
| 26 | 457,246 | 134,792 | 148,792 | 125,070 | | 1,657,299 | | | | | | | | | | 26 | Valeur ajoutée brute |
| 27 | 559,991 | 246,200 | 287,206 | 241,388 | | 2,973,108 | | | | | | | | | | 27 | PRODUCTION BRUTE |
| 28 | | 51,689 | | 85,787 | | 667,342 | | | | | | | | | | 28 | Importations CAF |
| 29 | | | | | | 125,709 | | | | | | | | | | 29 | Droits et taxes sur importations |
| 30 | | | | | | 793,051 | | | | | | | | | | 30 | Importations, y compris droits et taxes |
| 31 | -553,991 | | | | | - | | | | | | | | | | 31 | Ajustement statistique |
| 32 | - | 277,889 | 287,206 | 325,175 | | 3,766,159 | | | | | | | | | | 32 | RESSOURCES TOTALES |

NOTE: T - Total inputs
D - Domestically produced inputs
I - Imported Inputs

NOTE: T - Entrées totales
D - Entrées d'origine intérieur
I - Entrées importées

## KENYA

Sources: 1. Tableau Entrées - Sorties du Kenya 1967, publié par le Bureau Central de Statistique, Ministère des Finances et du Plan, Décembre 1972.

2. Tableau Entées - Sorties du Kenya 1971, publié par le Bureau Central de Statistique, Ministère des Finances et du Plan, Août 1976.

3. Tableau Entrées - Sorties du Kenya 1976, communiqué directement à la CEA par le Bureau Central de Statistique, Ministère des Finances et du Plan. (non encore publié)

Agrégation: L'agrégation des branches d'activité des tableaux nationaux initaux dans les 20 branches d'activité de la CEA, respectivement pour les années 1967, 1971, 1976, a été faite selon le tableau de correspondance ci-contre.

| Brabcge d'activité de la CEA | Branches d'activité correspondantes de la classification nationale | | |
|---|---|---|---|
| | 1967 (30 branches) | 1971 (30 branches) | 1967 (37 branches) |
| 1 | 1, 3 | 1, 3 | 1, 2, 3 |
| 2 | - | - | - |
| 3 | 4 | 4 | 4 |
| 4 | 5, 6 | 5, 6 | 5, 6 |
| 5 | 7 | 7 | 7 |
| 6 | 8, 9, 10 | 8, 9, 10 | 8, 9, 10 |
| 7 | 11 | 11 | 11 |
| 8 | 12, 13 | 12, 13 | 12, 13 |
| 9 | 14, 15 | 14, 15 | 15, 16, 17 |
| 10 | 16* | 16* | 14 |
| 11 | 17 | 17 | 18 |
| 12 | 18, 19* | 18, 19* | 19*, 20 |
| 13 | ... | ... | ... |
| 14 | 20 | 20 | 21, 22 |
| 15 | 21.2 | 21.2 | 23 |
| 16 | 22 | 22 | 24 |
| 17 | 23 | 23 | 25, 26 |
| 18 | 28 | 28 | 31, 32, 33, 34, 35 |
| 19 | 24, 25, 26, 27, 29 | 24, 25, 26, 27, 29 | 27, 28, 29, 30, 36 |
| 20 | 30 | 30* | 37* |

*Notes: - Pour les années 1967 et 1971, la branche d'activité nationale 16 inclut "les autres produits chimiques"et la brache 19 "les autres industries manufacturières";
- Pour l'année 1971 la branche 30 inclut la "chasse";
- pour l'année 1976 la branche 1 s'intitule "economie traditionnelle", la branche 19 inclut les "autres industries manufacturières"et la branche 37 la "chasse".

Système des prix: prix départ-usine

KENYA 1967 KENYA

Millions de livres Kenyan

| INPUTS / USES | | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>produits minéraux non metalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux Publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 1 Agriculture Forestry Fishing | T | 1,817 | | | 31,184 | 1,371 | 1,251 | 67 | 902 | 697 | 3,065 | 2 | 74 | | | 532 | 1 |
| | | D | 1,757 | | | 29,318 | 697 | 936 | 55 | 883 | 567 | 2,675 | 2 | 54 | | | 532 | |
| | | I | 60 | | | 1,786 | 674 | 315 | 12 | 19 | 130 | 390 | - | 40 | | | - | |
| | 2 Coal, Crude petroleum, natural gas | T | | | | | | | | | | 14,594 | | | | | | 2 |
| | | D | | | | | | | | | | - | | | | | | |
| | | I | | | | | | | | | | 14,594 | | | | | | |
| | 3 Other mining and quarrying | T | 90 | | 439 | 27 | 72 | | | | 4 | | 299 | | | 26 | 1,435 | 3 |
| | | D | 70 | | 387 | 27 | 72 | | | | 4 | | 135 | | | 26 | 1,127 | |
| | | I | 20 | | 52 | - | - | | | | - | | 164 | | | - | 308 | |
| | 4 Food manufacturing | T | 685 | | | 4,160 | 827 | | 387 | | 43 | 5 | | 36 | | | | 4 |
| | | D | 672 | | | 3,726 | 693 | | 347 | | 43 | 5 | | 31 | | | | |
| | | I | 14 | | | 443 | 134 | | 40 | | - | - | | 5 | | | | |
| | 5 Beverages and Tobacco | T | | | | | 562 | | | | | | | | | | | 5 |
| | | D | | | | | 497 | | | | | | | | | | | |
| | | I | | | | | 65 | | | | | | | | | | | |
| | 6 Textiles and Clothing | T | 1,844 | | 74 | 61 | | 4,408 | 183 | 210 | 81 | 72 | 8 | 59 | | 42 | | 6 |
| | | D | 211 | | 7 | 52 | | 428 | 5 | 56 | - | 19 | 3 | 23 | | 32 | | |
| | | I | 844 | | 67 | 9 | | 3,786 | 188 | 154 | 81 | 53 | 5 | 36 | | 10 | | |
| | 7 Footwear and manufacture of leather | T | | | | | | | 272 | | | | | 18 | | | | 7 |
| | | D | | | | | | | 166 | | | | | 12 | | | | |
| | | I | | | | | | | 77 | | | | | 6 | | | | |
| | 8 Wood products paper and printing | T | 151 | | 94 | 1,329 | 437 | 129 | 291 | 3,802 | 136 | 153 | 203 | 417 | | 78 | 1,802 | 8 |
| | | D | 146 | | 82 | 1,288 | 425 | 122 | 284 | 359 | 85 | 141 | | 295 | | 70 | 1,642 | |
| | | I | 5 | | 12 | 41 | 12 | 7 | 32 | 3,443 | 51 | 12 | 20 | 122 | | 8 | 160 | |
| | 9 Chemicals | T | 56 | | 24 | 80 | 18 | 7 | 225 | 118 | 18 | 15 | 10 | 167 | | 21 | 577 | 9 |
| | | D | 14 | | - | 5 | 3 | - | 75 | 48 | 9 | 7 | 1 | 41 | | 5 | 108 | |
| | | I | 42 | | 24 | 27 | 15 | 7 | 150 | 61 | 6 | 6 | 9 | 126 | | 88 | 268 | |
| | 10 Petroleum and coal products | T | 4,820 | | 203 | 386 | 199 | 787 | 584 | 608 | 1,548 | 1,685 | 441 | 732 | | 278 | 1,438 | 10 |
| | | D | 934 | | 132 | 289 | 91 | 57 | 13 | 152 | 68 | 354 | 282 | 187 | | 171 | 668 | |
| | | I | 3,886 | | 71 | 127 | 108 | 730 | 491 | 457 | 1,478 | 1,331 | 239 | 545 | | 107 | 770 | |
| | 11 Non-metallic mineral products | T | 285 | | 193 | 61 | 222 | 6 | | 4 | 15 | 78 | 122 | 188 | | 24 | 2,524 | 11 |
| | | D | 181 | | 189 | 46 | 222 | 6 | | - | 28 | 28 | 61 | 6 | | 24 | 1,918 | |
| | | I | 102 | | 4 | 1 | - | - | | 4 | 3 | 50 | 61 | 94 | | - | 606 | |
| | 12 Basic metal industries, metal products machinery, equipment | T | 1,139 | | 294 | 1,897 | 481 | 259 | 76 | 1,088 | 288 | 158 | 205 | 10,882 | | 364 | 8,262 | 12 |
| | | D | 734 | | 198 | 1,822 | 406 | 169 | 11 | 584 | 76 | 104 | 135 | 1,185 | | 223 | 4,481 | |
| | | I | 385 | | 96 | 75 | 58 | 90 | 65 | 481 | 218 | 51 | 72 | 9,619 | | 141 | 3,781 | |
| | 13 Other manufacturing industries | T | | | | | | | | | | | | | | | | 13 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 14 Electricity gas and water | T | 288 | | 88 | 588 | 179 | 176 | 38 | 167 | 75 | 188 | 543 | 251 | | 1,011 | 384 | 14 |
| | | D | 288 | | 88 | 538 | 179 | 176 | 38 | 167 | 75 | 188 | 543 | 251 | | 458 | 384 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | 553 | - | |
| | 15 Building and other constructions | T | | | 15 | 363 | 88 | 9 | 38 | 184 | 22 | 38 | 34 | 85 | | | 1,880 | 15 |
| | | D | | | 15 | 363 | 88 | 9 | 38 | 184 | 22 | 38 | 34 | 85 | | | 1,878 | |
| | | I | | | - | - | - | - | - | - | - | - | - | - | | | - | |

NF°800 KENYA 1967 KENYA Millions de Livres Kenya

| | INTERMEDIATE CONSUMPTION | | | CONSOMMATION INTERMEDIAIRE | | | FINAL USE | | | | IMPLOIS FINALS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and Communication<br>Transport et Communication | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross Fixed Capital Formation<br>Formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USE<br>TOTAL DES EMPLOIS FINALS | Statistical Adjustment<br>Ajustement statistique | TOTAL USES<br>TOTAL DES EMPLOIS | | EMPLOIS |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | 127/1025 |
| 1 | | 8 | 150 | 513 | | 41,553 | 185,609 | | 3,091 | | 17,443 | 126,143 | | 167,696 | T | Agriculture |
| | | 7 | 110 | 440 | | 37,813 | 184,245 | | 2,968 | | 17,443 | 124,636 | | 162,469 | D | 1 Sylviculture |
| | | 1 | 40 | 73 | | 3,740 | 1,364 | | 123 | | - | 1,487 | | 5,227 | I | Pêche |
| 2 | | | | | | 14,594 | | | | | | - | | 14,594 | T | Charbon, Pétrole |
| | | | | | | - | | | | | | - | | | D | 2 brut, gaz |
| | | | | | | 14,594 | | | | | | - | | 14,594 | I | naturel |
| 3 | | | 180 | | | 2,582 | 59 | | | | 2,074 | 2,113 | | 4,695 | T | Autres Industries |
| | | | 180 | | | 2,037 | 38 | | | | 2,074 | 2,113 | | 4,150 | D | 3 extractives |
| | | | - | | | 545 | - | | | | - | - | | 545 | I | |
| 4 | | 32 | 986 | 1,896 | | 8,835 | 27,205 | | | | 22,699 | 49,902 | | 58,737 | T | |
| | | 32 | 875 | 1,345 | | 7,735 | 22,542 | | | | 22,699 | 46,241 | | 52,976 | D | 4 Produits alimentaires |
| | | - | 111 | 551 | | 1,100 | 4,661 | | | | - | 3,661 | | 5,761 | I | |
| 5 | | 69 | | 4,242 | | 4,863 | 13,703 | | | | 1,170 | 14,973 | | 22,736 | T | |
| | | 60 | | 3,495 | | 4,052 | 14,580 | | | | 1,170 | 15,750 | | 19,802 | D | 5 Boissons et tabacs |
| | | 8 | | 747 | | 811 | 1,123 | | | | - | 1,123 | | 1,934 | I | |
| 6 | 648 | 198 | 825 | 145 | | 8,076 | 15,383 | | | | 4,883 | 20,276 | | 28,352 | T | |
| | 198 | 158 | 507 | 50 | | 1,954 | 5,455 | | | | 4,883 | 10,348 | | 12,282 | D | 6 Textiles |
| | 450 | 38 | 316 | 93 | | 6,122 | 9,928 | | | | - | 9,928 | | 16,070 | I | Habillement |
| 7 | | | 91 | | | 584 | 2,323 | | | | 1,117 | 3,640 | | 4,024 | T | |
| | | | 20 | | | 250 | 1,836 | | | | 1,117 | 2,972 | | 3,202 | D | 7 Industries du |
| | | | 71 | | | 154 | 668 | | | | - | 668 | | 822 | I | cuir |
| 8 | 2,424 | 448 | 599 | 1,160 | | 13,653 | 3,926 | | 1,346 | | 4,118 | 9,390 | | 23,043 | T | |
| | 953 | 366 | 545 | 530 | | 7,266 | 2,605 | | 1,178 | | 4,118 | 7,901 | | 15,167 | D | Bois, papier et |
| | 1,481 | 82 | 254 | 630 | | 6,387 | 1,321 | | 168 | | - | 1,488 | | 7,876 | I | 8 impression |
| 9 | 312 | 213 | 105 | 272 | | 1,970 | 4,693 | | | | 1,803 | 6,496 | | 8,466 | T | |
| | 1 | 19 | 38 | 144 | | 508 | 3,685 | | | | 1,803 | 5,488 | | 5,996 | D | Produits |
| | 311 | 194 | 68 | 128 | | 1,462 | 1,008 | | | | - | 1,008 | | 2,470 | I | 9 chimiques |
| 10 | 864 | 3,133 | 730 | 788 | | 19,219 | 3,814 | | | | 18,256 | 22,977 | | 41,291 | T | |
| | 864 | 2,944 | 585 | 588 | | 17,545 | 3,464 | | | | 18,256 | 19,722 | | 37,267 | D | Dérivés du |
| | - | 559 | 405 | 400 | | 11,674 | 2,350 | | | | - | 2,350 | | 14,024 | I | 10 charbon et du pétrole |
| 11 | | 27 | 885 | 334 | | 4,856 | 684 | | 1 | | 1,883 | 2,578 | | 7,414 | T | |
| | | 5 | 851 | 129 | | 3,638 | 453 | | - | | 1,883 | 2,346 | | 5,984 | D | Produits minéraux |
| | | 22 | 34 | 215 | | 1,198 | 231 | | 1 | | - | 232 | | 1,430 | I | 11 non métalliques |
| 12 | 1,505 | 7,867 | 3,405 | 1,661 | | 38,826 | 9,128 | | 53,927 | | 4,809 | 47,862 | | 86,688 | T | |
| | 1,505 | 5,785 | 2,465 | 916 | | 19,963 | 2,752 | | 2,752 | | 4,809 | 10,293 | | 30,256 | D | Métallurgie de base, |
| | - | 2,082 | 940 | 745 | | 18,863 | 6,374 | | 51,175 | | - | 37,569 | | 56,432 | I | 12 métaux machines, matériel |
| 13 | | | | | | | | | | | | | | | T | |
| | | | | | | | | | | | | | | | D | Autres Industries |
| | | | | | | | | | | | | | | | I | 13 manufacturières |
| 14 | 450 | 863 | 1,048 | 835 | | 6,860 | 2,945 | | | | 287 | 2,882 | | 9,742 | T | |
| | 450 | 863 | 1,048 | 835 | | 6,307 | 2,566 | | | | 287 | 2,855 | | 9,160 | D | Electricité |
| | - | - | - | - | | 553 | 28 | | | | - | 29 | | 582 | I | 14 eau, gaz |
| 15 | | 150 | | 456 | | 2,997 | 13,884 | | 38,343 | | 87 | 52,638 | | 55,633 | T | |
| | | 150 | | 456 | | 2,997 | 13,884 | | 38,343 | | 87 | 52,636 | | 55,633 | D | Bâtiments et |
| | | - | - | - | | - | - | | - | | - | - | | - | I | 15 travaux publics |

BIENS ET SERVICES

KF'000

KENYA 1961 KENYA

Millions de livres kenyans

| INPUTS | USES | | CONSUMPTION INTERMEDIAIRE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum (natural gas)<br>Charbon pétrole brut, gaz naturel | Other mining and quarrying<br>Autres industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and clothing<br>Textiles et habillement | Footwear and manufactures of leather<br>Chaussures et industries du cuir | Wood products (paper and printing)<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivés du pétrole et du charbon | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other manufacturing industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | 2,525 | | 186 | 3,650 | 1,084 | 761 | 283 | 1,197 | 488 | 697 | 346 | 1,724 | | 207 | 2,805 | 16 |
| | | D | 2,525 | | 186 | 3,650 | 1,084 | 761 | 283 | 1,197 | 488 | 697 | 346 | 1,724 | | 207 | 2,805 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 17 Transport and Communication | T | 1,200 | | 346 | 1,036 | 256 | 118 | 53 | 357 | 117 | 146 | 1,414 | 250 | | 120 | 925 | 17 |
| | | D | 1,200 | | 346 | 1,036 | 256 | 118 | 53 | 357 | 117 | 146 | 1,414 | 250 | | 120 | 925 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other Services | T | 1,157 | | 112 | 797 | 776 | 273 | 74 | 607 | 371 | 214 | 77 | 644 | | 240 | 1,499 | 19 |
| | | D | 1,157 | | 112 | 797 | 776 | 273 | 74 | 607 | 371 | 214 | 77 | 644 | | 240 | 1,499 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 20 Unallocated items and statistical adjustment | T | 286 | | 50 | 155 | 52 | 254 | 14 | 156 | 52 | 118 | 43 | 823 | | 351 | 280 | 20 |
| | | D | 289 | | 50 | 155 | 52 | 254 | 14 | 156 | 52 | 118 | 15 | 555 | | 351 | 280 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 15,286 | - | 1,998 | 44,575 | 6,345 | 8,458 | 1,411 | 9,210 | 3,948 | 21,212 | 9,516 | 10,892 | | 2,770 | 24,134 | 21 |
| | | D | 10,281 | - | 1,675 | 41,864 | 5,492 | 3,503 | 1,300 | 4,415 | 1,965 | 4,728 | 2,230 | 3,481 | | 570 | 15,239 | |
| | | I | 5,340 | - | 325 | 2,508 | 1,241 | 4,955 | 1,052 | 4,795 | 1,983 | 16,487 | 570 | 7,281 | | 687 | 8,895 | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | 5,011 | | 341 | 1,288 | 845 | 137 | 104 | 503 | 228 | 501 | 374 | 1,488 | | 425 | 654 | 22 |
| | 23 Compensation of employees | | 21,269 | | 1,139 | 4,006 | 2,658 | 1,284 | 265 | 3,607 | 739 | 1,151 | 875 | 9,124 | | 2,050 | 10,070 | 23 |
| | 24 Indirect taxes less subsidies | | -1,072 | | 20 | 1,961 | 7,478 | 152 | 6 | 34 | 345 | 1,748 | 2 | 280 | | 3 | 15 | 24 |
| | 25 Other income | | 121,473 | | 735 | 4,342 | 2,729 | 1,051 | 181 | 1,771 | 207 | 3,654 | 4,267 | 3,912 | | 3,912 | 28,752 | 25 |
| | 26 Gross value added | | 146,681 | - | 2,151 | 11,597 | 13,250 | 2,624 | 761 | 5,907 | 2,048 | 6,854 | 2,484 | 14,184 | | 6,280 | 31,491 | 26 |
| RESOURCES | 27 GOODS OUTPUT | | 162,469 | - | 4,150 | 51,976 | 19,595 | 11,082 | 3,202 | 15,117 | 5,996 | 27,887 | 9,954 | 30,284 | | 9,160 | 55,625 | 27 |
| | 28 Imports CIF | | 5,138 | 9,634 | 368 | 4,518 | 732 | 12,016 | 557 | 7,280 | 2,018 | 12,975 | 1,276 | 51,393 | | 582 | - | 28 |
| | 29 Import duties | | 92 | 4,960 | 185 | 913 | 1,600 | 3,055 | 125 | 588 | 434 | 1,850 | 251 | 5,337 | | - | - | 29 |
| | 30 Imports, included duties | | 5,227 | 14,594 | 545 | 5,761 | 1,858 | 14,670 | 682 | 7,870 | 2,478 | 14,824 | 1,539 | 56,482 | | 582 | - | 30 |
| | 31 Statistical adjustment | | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | 31 |
| | 32 TOTAL RESOURCES | | 167,696 | 14,594 | 4,695 | 58,157 | 21,453 | 26,752 | 3,884 | 23,013 | 8,474 | 42,711 | 11,493 | 86,766 | | 9,742 | 55,625 | 32 |

080-0868

KF'000 — K E N Y A — 1 9 6 7 — K E N Y A — Million de Livres Kenyanes

| | CONSOMMATION INTERMEDIAIRE | | | | | | DEMANDE FINALE | | | | | | | | | | EMPLOIS / RESSOURCES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and communication<br>Transports et communication | Public Administration<br>Administration publique | Other Services<br>Autres services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>Formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES EMPLOIS FINALS | Statistical Adjustment<br>Ajustement statistique | TOTAL USES<br>TOTAL DES EMPLOIS | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| 16 | 1,988<br>1,804 | 2,472<br>2,472 | 1,247<br>1,247 | 1,288<br>1,288 | | 22,741<br>21,737 | 21,928<br>21,890 | | 4,415<br>4,415 | | 13,794<br>13,794 | 40,137<br>40,187 | | 62,878<br>61,864 | T<br>D<br>I | 16 Commerce de gros et de détail |
| 17 | 6,756<br>6,756 | 9,334<br>6,873<br>2,461 | 2,767<br>2,767 | 1,495<br>1,495 | | 26,549<br>24,088<br>2,461 | 24,738<br>20,231<br>4,507 | | | | 18,574<br>18,574 | 43,315<br>38,805<br>4,507 | | 69,862<br>62,893<br>6,969 | T<br>D<br>I | 17 Transports et communications |
| 18 | | | | | | - | 18,298<br>16,163<br>2,132 | 62,225<br>62,225 | | | 735<br>735 | 81,258<br>79,123<br>2,132 | | 81,258<br>79,123<br>2,132 | T<br>D<br>I | 18 Administrations publiques |
| 19 | 5,721<br>5,721 | 2,660<br>2,660 | 4,386<br>4,386 | 3,617<br>3,128<br>489 | | 25,681<br>23,192<br>489 | 33,800<br>31,562<br>2,238 | | | | 11,679<br>11,679 | 47,479<br>45,241<br>2,238 | | 71,160<br>68,433<br>2,727 | T<br>D<br>I | 19 Autres services |
| 20 | | 1,705<br>1,705 | 5,383<br>4,135<br>1,248 | 2,151<br>2,151 | | 11,725<br>10,475<br>1,248 | 3,768<br>-<br>3,768 | | | | 1,877<br>1,877 | 5,645<br>1,877<br>3,768 | -12,352<br>-12,352 | 5,018<br>-<br>5,018 | T<br>D<br>I | 20 Activités mal désignées et ajustement statistique |
| 21 | 20,464<br>17,420<br>3,044 | 29,199<br>23,750<br>5,448 | 23,052<br>19,564<br>3,488 | 20,561<br>16,690<br>3,871 | -<br>-<br>- | 253,942<br>181,557<br>72,385 | 312,712<br>267,979<br>44,733 | 62,225<br>62,225<br>- | 81,486<br>49,958<br>31,528 | | 125,310<br>125,310<br>- | 581,692<br>506,472<br>75,220 | -12,352<br>-12,352<br>- | 825,282<br>674,657<br>150,625 | T<br>D<br>I | 21 TOTAL DES EMPLOIS DE BIENS ET SERVICES |
| 22 | 2,603 | 5,197 | 563 | 2,124 | | 22,318 | | | | | | | | | | 22 Consommation brute de capital fixe |
| 23 | 17,518 | 20,592 | 55,316 | 18,065 | | 170,465 | | | | | | | | | | 23 Rémunération des salariés |
| 24 | 1,052 | 789 | 8 | 1,922 | | 14,792 | | | | | | | | | | 24 Impots indirects moins subventions |
| 25 | 20,027 | 7,316 | 384 | 23,761 | | 215,142 | | | | | | | | | | 25 Autres revenus |
| 26 | 41,200 | 33,694 | 56,071 | 45,872 | - | 420,715 | | | | | | | | | | 26 Valeur ajoutée brute |
| 27 | 61,864 | 62,885 | 79,123 | 66,433 | - | 674,657 | | | | | | | | | | 27 PRODUCTION BRUTE |
| 28 | 1,014 | 6,969 | 3,132 | 4,727 | 4,573 | 129,341 | | | | | | | | | | 28 Importations CAF |
| 29 | - | - | - | - | 443 | 19,284 | | | | | | | | | | 29 Droits et taxes sur importations |
| 30 | 1,014 | 6,969 | 3,132 | 4,727 | 5,016 | 148,625 | | | | | | | | | | 30 Importations, y compris droits et taxes |
| 31 | - | - | - | - | - | - | | | | | | | | | | 31 Ajustement statistique |
| 32 | 62,878 | 69,862 | 82,255 | 71,160 | 5,016 | 823,282 | | | | | | | | | | 32 RESSOURCES TOTALES |

NOTE: T - Total inputs
D - Domestically produced inputs
I - Imported inputs

NOTE: T - Entrées totales
D - Entrées d'origine intérieur
I - Entrées importées

KA'000 KENYA 1971 KENYA Million de livres Kenyenes

| INPUTS / INTRANTS | | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 1 Agriculture Forestry Fishing | T | 2,094 | | | 40,599 | 1,172 | 1,583 | 653 | 499 | 88 | 3,509 | 3 | 71 | | | 1,647 | |
| | | D | 1,929 | | | 39,027 | 139 | 341 | 258 | 467 | - | 2,911 | 3 | - | | | 1,647 | 1 |
| | | I | 165 | | | 1,572 | 1,033 | 1,242 | 395 | 32 | 88 | 598 | - | 71 | | | - | |
| | 2 Coal, Crude petroleum, natural gas | T | | | | | | | | | | 14,935 | | | | | | |
| | | D | | | | | | | | | | - | | | | | | 2 |
| | | I | | | | | | | | | | 13,935 | | | | | | |
| | 3 Other mining and quarrying | T | 31 | | 458 | 88 | 111 | | | 2 | 15 | | 805 | 105 | | 21 | 2,798 | |
| | | D | - | | 458 | - | 109 | | | 2 | 3 | | 240 | - | | 21 | 2,740 | 3 |
| | | I | 31 | | - | 88 | 2 | | | - | 12 | | 565 | 105 | | - | 48 | |
| | 4 Food manufacturing | T | 1,220 | | | 4,308 | 641 | | 144 | | 697 | 167 | | 18 | | | | |
| | | D | 1,166 | | | 3,587 | 5 | | 144 | | 40 | 17 | | 11 | | | | 4 |
| | | I | 54 | | | 921 | 636 | | - | | 657 | 150 | | 7 | | | | |
| | 5 Beverages and Tobacco | T | | | | | 1,258 | | | | | | | | | | | |
| | | D | | | | | 925 | | | | | | | | | | | 5 |
| | | I | | | | | 333 | | | | | | | | | | | |
| | 6 Textiles and Clothing | T | 1,288 | | 137 | 187 | 6 | 9,185 | 254 | 461 | 87 | 30 | 13 | 225 | | 10 | 56 | |
| | | D | 909 | | 134 | 175 | - | 3,537 | 11 | 96 | - | 22 | 8 | 37 | | - | 22 | 6 |
| | | I | 379 | | 3 | 12 | 6 | 5,648 | 243 | 365 | 87 | 8 | 5 | 188 | | 10 | 34 | |
| | 7 Footwear and manufacture of leather | T | 1 | | 1 | 4 | 1 | 1 | 490 | 1 | | 1 | 1 | 10 | | | 4 | |
| | | D | - | | - | - | - | - | 396 | - | | - | - | 7 | | | - | 7 |
| | | I | 1 | | 1 | 4 | 1 | 1 | 94 | 1 | | 1 | 1 | 3 | | | 4 | |
| | 8 Wood products paper and printing | T | 65 | | 164 | 2,532 | 622 | 307 | 342 | 8,704 | 551 | 421 | 293 | 765 | | 149 | 4,365 | |
| | | D | 59 | | 154 | 1,763 | 452 | 283 | 174 | 2,100 | 539 | 229 | 282 | 568 | | 145 | 3,453 | 8 |
| | | I | 6 | | 10 | 769 | 170 | 24 | 168 | 6,604 | 13 | 192 | 11 | 195 | | 4 | 912 | |
| | 9 Chemicals | T | 144 | | 56 | 69 | 48 | 8 | 260 | 97 | 442 | 32 | 40 | 563 | | 35 | 1,398 | |
| | | D | 14 | | 7 | 5 | 4 | 1 | 41 | 45 | 18 | 1 | 4 | 91 | | 7 | 947 | 9 |
| | | I | 130 | | 29 | 64 | 36 | 7 | 219 | 52 | 424 | 31 | 36 | 472 | | 28 | 441 | |
| | 10 Petroleum and coal products | T | 7,548 | | 364 | 2,349 | 816 | 1,054 | 342 | 1,288 | 2,087 | 5,647 | 575 | 2,155 | | 309 | 3,157 | |
| | | D | 2,090 | | 137 | 312 | 177 | 163 | 21 | 323 | 186 | 110 | 339 | 471 | | 312 | 2,157 | 10 |
| | | I | 5,258 | | 227 | 2,057 | 641 | 891 | 321 | 962 | 1,901 | 3,537 | 237 | 1,684 | | 197 | 990 | |
| | 11 Non-metallic mineral products | T | 1 | | 252 | 85 | 224 | 7 | | 23 | 39 | 189 | 727 | 459 | | 53 | 6,752 | |
| | | D | - | | 247 | 31 | 98 | | | 6 | 23 | 121 | 276 | 95 | | 46 | 5,274 | 11 |
| | | I | 1 | | 5 | 54 | 126 | | | 17 | 16 | 68 | 451 | 364 | | 7 | 1,478 | |
| | 12 Basic metal industries, metal products machinery, equipment | T | 1,259 | | 447 | 2,321 | 1,501 | 347 | 99 | 1,682 | 371 | 753 | 386 | 21,297 | | 813 | 12,939 | |
| | | D | 857 | | 285 | 1,227 | 637 | 207 | 44 | 894 | 203 | 368 | 487 | 2,025 | | 458 | 7,135 | 12 |
| | | I | 402 | | 162 | 1,094 | 864 | 140 | 55 | 788 | 168 | 385 | 399 | 19,272 | | 355 | 5,804 | |
| | 13 Other manufacturing industries | T | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | 13 |
| | | I | | | | | | | | | | | | | | | | |
| | 14 Electricity gas and water | T | 425 | | 152 | 715 | 561 | 322 | 77 | 227 | 94 | 265 | 541 | 573 | | 1,165 | 465 | |
| | | D | 425 | | 152 | 715 | 561 | 188 | 77 | 227 | 44 | 265 | 541 | 573 | | 595 | 465 | 14 |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | 570 | - | |
| | 15 Building and other constructions | T | | | 88 | 146 | 70 | 9 | 4 | 89 | 6 | 239 | 86 | 119 | | | 7,409 | |
| | | D | | | 88 | 146 | 70 | 9 | 4 | 89 | 6 | 239 | 86 | 119 | | | 7,409 | 15 |
| | | I | | | - | - | - | - | - | - | - | - | - | - | | | - | |

KE'000 KENYA 2071 KENYA Million de livre Kenyane

| CONSOMMATION INTERMEDIAIRE | | | | | | EMPLOIS FINALS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wholesale and retail trade | Transport and Communication | Public Administration | Other Services | Unallocated items and statistical adjustment | TOTAL INTERMEDIATE CONSUMPTION | Private Consumption | Public Consumption | Gross Fixed Capital Formation | Changes in stocks | Exports | TOTAL FINAL USES | Statistical Adjustment | TOTAL USES | EMPLOIS | |
| Commerce de gros et de détail | Transport et Communication | Administration publique | Autres Services | Activités mal désignées et ajustement statistique | TOTAL CONSOMMATION INTERMEDIAIRE | Consommation privée | Consommation publique | Formation brute de capital fixe | Variation de stocks | Exportations | TOTAL DES EMPLOIS FINALS | Ajustement Statistique | TOTAL DES EMPLOIS | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| | 11 | 391 | 853 | | 52,973 | 123,111 | | 2,904 | | 26,195 | | | 205,483 | T | Agriculture |
| 1 | 11 | 380 | 698 | | 47,811 | 120,136 | | 2,666 | | 26,195 | | | 196,802 | D | 1 Sylviculture |
| | - | 11 | 155 | | 5,162 | 2,975 | | 136 | | - | | | 8,681 | I | Pêche |
| | | | | | 19,935 | | | | | | | | 19,935 | T | |
| 2 | | | | | - | | | | | | | | - | D | Charbon, Pétrole |
| | | | | | 19,935 | | | | | | | | 19,935 | I | 2 brut, gaz naturel |
| | 1 | | | | 4,425 | 174 | | | | 2,748 | | | 7,347 | T | |
| 3 | - | | | | 3,591 | 174 | | | | 2,748 | | | 6,496 | D | Autres Industries |
| | 1 | | | | 834 | - | | | | - | | | 852 | I | 3 extractives |
| | 75 | 1,580 | 2,582 | | 11,452 | 50,331 | | | | 25,048 | | | 86,831 | T | |
| 4 | 58 | 1,482 | 2,390 | | 8,640 | 40,748 | | | | 25,048 | | | 74,436 | D | 4 Produits alimentaires |
| | 17 | 98 | 192 | | 2,792 | 9,603 | | | | - | | | 12,395 | I | |
| | 197 | 2 | 6,558 | | 7,935 | 26,734 | | | | 857 | | | 35,586 | T | |
| 5 | 131 | - | 5,656 | | 6,732 | 25,211 | | | | 857 | | | 32,790 | D | 5 Boissons et tabacs |
| | 66 | 2 | 902 | | 1,203 | 1,523 | | | | - | | | 2,806 | I | |
| | 722 | 312 | 929 | 203 | 14,105 | 29,827 | | | | 3,767 | | | 47,699 | T | |
| 6 | 614 | 209 | 534 | 49 | 6,353 | 12,297 | | | | 3,767 | | | 22,417 | D | 6 Textiles |
| | 108 | 103 | 395 | 154 | 7,752 | 17,530 | | | | - | | | 25,282 | I | Habillement |
| | 3 | 94 | 8 | | 620 | 4,495 | | | | 1,344 | | | 5,459 | T | |
| 7 | - | 23 | 2 | | 428 | 2,969 | | | | 1,344 | | | 4,741 | D | 7 Chaussures et industries du |
| | 3 | 71 | 6 | | 192 | 1,526 | | | | - | | | 1,718 | I | cuir |
| | 2,532 | 754 | 3,325 | 1,076 | 29,865 | 5,431 | | 1,569 | | 5,039 | 12,039 | | 39,904 | T | |
| 8 | 1,670 | 652 | 2,745 | 1,330 | 16,597 | 2,869 | | 1,180 | | 5,039 | 9,088 | | 25,685 | D | Bois, papier et |
| | 862 | 102 | 580 | 646 | 11,454 | 2,562 | | 389 | | - | 2,951 | | 14,219 | I | 8 impression |
| | 618 | 679 | 534 | 416 | 5,401 | 7,504 | | | | 2,348 | | | 15,253 | T | |
| 9 | 98 | 81 | 60 | 242 | 1,686 | 5,602 | | | | 2,348 | | | 9,636 | D | Produits |
| | 520 | 598 | 454 | 174 | 3,715 | 1,902 | | | | - | | | 5,617 | I | 9 chimiques |
| | 1,289 | 4,142 | 2,584 | 1,011 | 34,986 | 22,802 | | | | 23,935 | | | 71,633 | T | |
| 10 | 839 | 2,357 | 1,033 | 410 | 11,416 | 6,473 | | | | 23,935 | | | 41,824 | D | Dérivés du |
| | 450 | 1,785 | 1,551 | 601 | 23,480 | 6,329 | | | | - | | | 29,809 | I | 10 Charbon et du pétrole |
| | | 76 | 42 | 109 | 9,019 | 1,984 | | 11 | | 3,173 | 5,068 | | 14,086 | T | |
| 11 | | 15 | 9 | 7 | 6,248 | 1,060 | | - | | 3,173 | 4,233 | | 10,481 | D | Produits minéraux |
| | | 61 | 33 | 102 | 2,770 | 924 | | 11 | | - | 835 | | 3,605 | I | 11 non métalliques |
| | 1,502 | 11,781 | 3,326 | 1,854 | 63,678 | 23,300 | | 56,641 | | 6,379 | 87,720 | | 151,598 | T | |
| 12 | 496 | 10,593 | 1,638 | 874 | 29,448 | 10,950 | | 7,228 | | 6,379 | 24,557 | | 54,005 | D | Métallurgie de base, |
| | 1,008 | 1,188 | 1,688 | 980 | 34,230 | 14,350 | | 49,413 | | - | 63,163 | | 97,393 | I | 12 métaux machines, matériel |
| | | | | | | | | | | | | | | T | |
| 13 | | | | | | | | | | | | | | D | Autres industries |
| | | | | | | | | | | | | | | I | 13 manufacturières |
| | 590 | 905 | 1,417 | 976 | 3,730 | 3,426 | | | | 248 | 3,674 | | 13,064 | T | |
| 14 | 590 | 905 | 1,406 | 976 | 8,099 | 3,386 | | | | 248 | 3,634 | | 12,443 | D | Electricité |
| | - | - | 11 | - | 581 | 40 | | | | - | 40 | | 621 | I | 14 eau, gaz |
| | | 15 | 5,878 | 1,857 | 16,033 | 15,616 | | 64,543 | | 46 | 80,605 | | 96,638 | T | |
| 15 | | 15 | 5,878 | 1,857 | 16,033 | 15,616 | | 64,617 | | 46 | 80,279 | | 96,312 | D | Bâtiments et |
| | | - | - | - | - | - | | 326 | | - | 326 | | 326 | I | 15 travaux publics |

BIENS ET SERVICES

K£'000 — KENYA — 1971 — KENYA — Million de livres kenyans

| INPUTS \ USES | | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing / Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas / Charbon pétrole brut, gaz naturel | Other mining and quarrying / Autres Industries extractives | Food manufactur-ing / Produits alimentaires | Beverages and tobacco / Boissons et tabacs | Textiles and Clothing / Textiles et habillement | Footwear and manufactures of leather / Chaussures et Industrie du cuir | Wood products, paper and printing / Bois, papier et impression | Chemicals / Produits chimiques | Petroleum and coal products / Dérivées du charbon et du pétrole | Non metallic mineral products / Produits minéraux non métalliques | Basic metal / Métallurgie de base | Other manufactur-ing Industries / Autres industries manufactu-rières | Electricity gas and water / Electricité eau et gaz | Buildings and other construction / Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | 2,964 | | 292 | 4,993 | 2,802 | 1,324 | 392 | 2,063 | 775 | 1,275 | 637 | 3,503 | | 427 | 5,326 | 16 |
| | | D | 2,964 | | 292 | 4,993 | 2,802 | 1,324 | 392 | 2,063 | 775 | 1,275 | 637 | 3,503 | | 427 | 5,326 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 17 Transport and Communication | T | 322 | | 388 | 1,345 | 277 | 210 | 13 | 575 | 337 | 391 | 974 | 586 | | 212 | 990 | 17 |
| | | D | 322 | | 378 | 1,337 | 273 | 204 | 13 | 562 | 330 | 379 | 968 | 567 | | 188 | 966 | |
| | | I | - | | 10 | 8 | 4 | 6 | - | 13 | 7 | 12 | 6 | 19 | | 24 | 24 | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other Services | T | 2,061 | | 458 | 1,024 | 708 | 501 | 241 | 924 | 584 | 769 | 207 | 1,782 | | 507 | 1,670 | 19 |
| | | D | 1,877 | | 339 | 914 | 578 | 365 | 196 | 832 | 482 | 618 | 222 | 1,598 | | 461 | 1,569 | |
| | | I | 184 | | 119 | 110 | 130 | 36 | 45 | 92 | 102 | 151 | 25 | 184 | | 46 | 101 | |
| | 20 Unallocated items and statistical adjustment | T | | | 252 | 303 | 150 | 252 | 61 | 145 | 51 | 66 | 449 | 90 | | 236 | 767 | 20 |
| | | D | | | 252 | 303 | 150 | 252 | 36 | 145 | 51 | 66 | 449 | 90 | | 236 | 767 | |
| | | I | | | - | - | - | - | 25 | - | - | - | - | - | | - | - | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 19,228 | | 3,466 | 61,993 | 18,282 | 15,151 | 3,572 | 16,777 | 6,274 | 31,689 | 6,237 | 32,319 | | 4,197 | 49,703 | 21 |
| | | D | 12,617 | | 2,930 | 54,505 | 6,100 | 7,149 | 1,807 | 7,847 | 2,744 | 6,621 | 4,501 | 9,755 | | 2,956 | 39,877 | |
| | | I | 6,611 | | 560 | 7,758 | 3,462 | 8,002 | 1,765 | 8,930 | 3,475 | 25,068 | 1,736 | 22,564 | | 1,241 | 9,826 | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | 6,548 | | 536 | 1,670 | 610 | 1,210 | 99 | 775 | 249 | 767 | 577 | 2,210 | | 1,398 | 3,036 | 22 |
| | 23 Compensation of employees | | 25,962 | | 1,178 | 3,665 | 2,898 | 3,524 | 593 | 5,726 | 1,063 | 2,067 | 1,406 | 14,035 | | 2,286 | 18,983 | 23 |
| | 24 Indirect taxes less subsidies | | - 299 | | 99 | 2,861 | 14,241 | 657 | 2 | 105 | 441 | 2,833 | 66 | 237 | | 41 | 243 | 24 |
| | 25 Other incomes | | 145,313 | | 1,236 | 3,107 | 4,769 | 1,875 | 475 | 2,302 | 1,159 | 4,668 | 2,195 | 5,204 | | 4,521 | 24,347 | 25 |
| | 26 Gross value added | | 177,574 | | 3,029 | 10,323 | 22,518 | 7,266 | 1,169 | 8,409 | 3,412 | 10,135 | 4,244 | 21,686 | | 8,246 | 46,609 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 196,802 | - | 6,495 | 14,436 | 32,780 | 22,417 | 4,741 | 25,685 | 9,636 | 41,824 | 10,481 | 54,005 | | 12,443 | 96,312 | 27 |
| | 28 Imports CIF | | 8,288 | 13,064 | 556 | 2,772 | 1,073 | 18,520 | 1,335 | 12,972 | 4,534 | 28,916 | 5,158 | 88,723 | | 621 | 326 | 28 |
| | 29 Imports duties | | 393 | 6,871 | 296 | 2,623 | 1,733 | 6,772 | 365 | 1,347 | 1,283 | 2,893 | 447 | 10,870 | | - | - | 29 |
| | 30 Imports, included duties | | 8,681 | 19,935 | 852 | 5,395 | 2,806 | 25,292 | 1,700 | 14,319 | 5,817 | 29,809 | 5,605 | 97,593 | | 621 | 326 | 30 |
| | 31 Statistical adjustment | | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | 31 |
| | 32 TOTAL RESOURCES | | 205,483 | 19,935 | 7,347 | 20,831 | 35,586 | 47,709 | 6,454 | 54,004 | 15,453 | 71,633 | 14,086 | 151,598 | | 13,064 | 96,638 | 32 |

060-0868

RA'000 [illegible] Million de livres sanyas

| | CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and communication<br>Transports et communications | Public Administration<br>Administration publique | Other services<br>Autres services | Financial institutions and insurance services not allocated to categories 70 to 79<br>Services des établissements financiers et des assurances non ventilés par catégories 70 à 79 | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL DES CONSOMMATIONS INTERMEDIAIRES | [illegible] | [illegible] | [illegible] | [illegible] | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES UTILISATIONS FINALES | Imports and duties<br>Importations et droits | GDP (mp)<br>PIB (pm) | |
| | 16 | 17 | 18 | 19 | 20 | 21 | | | 24 | 25 | 26 | 27 | 28 | 29 | |
| 16 | 4,301<br>4,301<br>– | 2,977<br>2,977<br>– | 2,415<br>2,462<br>– | 1,664<br>1,664<br>– | | 89,592<br>92,983<br>3,391 | 20,304<br>21,138<br>834 | | 46,078<br>46,078<br>24 | | 16,517<br>16,517<br>– | 43,679<br>47,304<br>1,111 | | 90,001<br>93,933<br>1,135 | 1<br>2<br>3 |
| 17 | 10,161<br>9,961<br>180 | 15,143<br>12,059<br>3,084 | 5,279<br>4,959<br>320 | 2,056<br>1,456<br>600 | | 89,757<br>75,436<br>7,837 | 27,362<br>22,757<br>4,605 | | | | 27,619<br>27,619<br>– | | | 97,454<br>86,912<br>8,000 | 4<br>5<br>6 |
| 18 | | | | | | | 13,980<br>2,280 | 19,317<br>19,401 | | | 473<br>473 | | | 18,539<br>16,661<br>1,957 | 7<br>8<br>9 |
| 19 | 3,823<br>7,036<br>1,787 | 4,762<br>3,635<br>1,127 | 8,780<br>7,475<br>1,245 | 6,474<br>8,533<br>1,961 | | 85,[illegible]<br>[illegible]<br>[illegible] | [illegible]<br>[illegible]<br>[illegible] | | [illegible]<br>[illegible] | | 85,927<br>85,927<br>– | 75,984<br>73,731<br>2,154 | | 18,090<br>159,001<br>4,561 | 10<br>11<br>12 |
| 20 | 1,271<br>1,271<br>– | 257<br>257<br>– | 1,620<br>1,620<br>– | 1,440<br>1,440<br>– | 100<br>100<br>100 | [illegible]<br>[illegible]<br>[illegible] | | | | | 6,465<br>6,465<br>– | 6,465<br>6,465<br>– | -15,000<br>-15,000<br>– | 220<br>250<br>- 30 | 13<br>14<br>15 |
| 21 | 52,689<br>27,776<br>4,913 | 42,090<br>33,955<br>8,135 | 30,172<br>21,710<br>8,462 | 30,020<br>24,007<br>6,013 | 130<br>130<br>130 | [illegible]<br>[illegible]<br>75,682 | 440,200<br>367,466<br>72,734 | 134,313<br>134,313<br>– | 134,868<br>90,427<br>44,441 | | 170,348<br>170,348<br>– | 361,435<br>739,018<br>422,433 | -15,300<br>-15,300<br>-200 | 1,000,245<br>1,002,330<br>-47,415 | 16<br>17<br>18 |
| 22 | 3,356 | 6,100 | 620 | 1,930 | | 51,500 | | | | | | | | | 19 |
| 23 | 23,706 | 28,211 | 97,306 | 26,034 | | 360,445 | | | | | | | | | 20 |
| 24 | 1,690 | 782 | 19 | 4,954 | 130 | 13,300 | | | | | | | | | 21 |
| 25 | 24,300 | 8,829 | 554 | 43,603 | | 276,637 | | | | | | | | | 22 |
| 26 | 52,044 | 43,922 | 98,509 | 76,441 | 130 | 503,930 | | | | | | | | | 23 |
| 27 | 85,533 | 86,012 | 136,681 | 106,501 | 260 | 1,002,330 | | | | | | | | | 24 |
| 28 | 1,119 | 8,022 | 4,957 | 3,550 | 563 | 232,000 | | | | | | | | | 25 |
| 29 | – | – | – | 51 | 2439 | 80,250 | | | | | | | | | 26 |
| 30 | 1,119 | 8,022 | 4,957 | 3,501 | 37 | 147,750 | | | | | | | | | 27 |
| 31 | – | – | – | – | – | | | | | | | | | | 28 |
| 32 | 86,653 | 94,034 | 141,638 | 110,002 | 298 | 1,150,080 | | | | | | | | | 29 |

KENYA 1976 KENYA Million de livres kenyans

| INPUTS | | | CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other Mining and Quarrying<br>Autres Industries extractives | Food Manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and Manufacture of leather<br>Chaussures et Industrie du cuir | Wood products, paper and printing<br>Bois, papier et Impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non-metallic mineral products<br>produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 1 Agriculture Forestry Fishing | T | 31,246 | | | 104,091 | 1,125 | 2,586 | 754 | 888 | 6,718 | 0 | 5 | 152 | | 0 | 0 | 1 |
| | | D | 29,821 | | | 100,776 | 288 | 838 | 369 | 821 | 5,559 | 0 | 5 | 24 | | 0 | 0 | |
| | | I | 1,425 | | | 3,315 | 837 | 1,548 | 385 | 67 | 1,159 | 0 | 0 | 128 | | 0 | 0 | |
| | 2 Coal, Crude petroleum, natural gas | T | | | | | | | | | | 109,964 | | | | | | 2 |
| | | D | | | | | | | | | | - | | | | | | |
| | | I | | | | | | | | | | 109,964 | | | | | | |
| | 3 Other mining and quarrying | T | 79 | | 1,016 | 432 | 194 | | | 7 | 169 | | 2,443 | 429 | | 42 | 6,906 | 3 |
| | | D | - | | 1,016 | - | 190 | | | 7 | 4 | | 651 | - | | 42 | 6,782 | |
| | | I | 79 | | - | 432 | 4 | | | - | 165 | | 1,792 | 429 | | - | 124 | |
| | 4 Food manufacturing | T | 6,036 | | | 72,469 | 9,225 | | 2,492 | | 12,637 | | | 578 | | | | 4 |
| | | D | 6,000 | | | 68,381 | 8,002 | | 2,492 | | 11,073 | | | 548 | | | | |
| | | I | 36 | | | 3,788 | 1,223 | | - | | 1,564 | | | 30 | | | | |
| | 5 Beverages and Tobacco | T | | | | | 2,975 | | | | | | | | | | | 5 |
| | | D | | | | | 2,523 | | | | | | | | | | | |
| | | I | | | | | 452 | | | | | | | | | | | |
| | 6 Textiles and Clothing | T | 3,354 | | 331 | 926 | 5 | 17,310 | 267 | 948 | 348 | 2 | 34 | 593 | | 11 | 124 | 6 |
| | | D | 1,894 | | 330 | 914 | 3 | 3,463 | 13 | 330 | 85 | 1 | 31 | 233 | | 6 | 90 | |
| | | I | 1,460 | | 1 | 12 | 2 | 13,847 | 254 | 618 | 263 | 1 | 3 | 360 | | 5 | 34 | |
| | 7 Footwear and manufacture of leather | T | | | 2 | 17 | 2 | 3 | 820 | 3 | 3 | | 3 | 31 | | | 9 | 7 |
| | | D | | | - | - | - | - | 636 | - | - | | - | 21 | | | - | |
| | | I | | | 2 | 17 | 2 | 3 | 184 | 3 | 3 | | 3 | 10 | | | 9 | |
| | 8 Wood products paper and printing | T | 2,595 | | 368 | 10,944 | 1,084 | 1,549 | 749 | 28,634 | 2,151 | 86 | 905 | 2,728 | | 439 | 5,504 | 8 |
| | | D | 2,593 | | 361 | 9,766 | 983 | 1,515 | 631 | 21,145 | 1,980 | 83 | 892 | 2,505 | | 435 | 4,786 | |
| | | I | 2 | | 7 | 1,178 | 99 | 34 | 118 | 7,489 | 171 | 3 | 11 | 223 | | 4 | 518 | |
| | 9 Chemicals | T | 14,109 | | 482 | 10,461 | 1,142 | 3,245 | 1,786 | 4,201 | 18,918 | 1,006 | 538 | 9,738 | | 184 | 6,187 | 9 |
| | | D | 4,631 | | 157 | 2,465 | 253 | 932 | 616 | 1,421 | 4,945 | 200 | 120 | 3,474 | | 79 | 5,045 | |
| | | I | 9,478 | | 325 | 7,996 | 889 | 2,313 | 1,170 | 2,780 | 13,973 | 806 | 238 | 6,264 | | 105 | 1,142 | |
| | 10 Petroleum and coal products | T | 5,459 | | 1,276 | 4,060 | 1,341 | 857 | 96 | 2,840 | 1,310 | 585 | 4,419 | 4,245 | | 3,705 | 15,027 | 10 |
| | | D | 4,960 | | 1,559 | 3,697 | 1,215 | 785 | 61 | 2,600 | 1,186 | 532 | 4,006 | 3,849 | | 3,369 | 13,718 | |
| | | I | 499 | | 117 | 363 | 126 | 72 | 5 | 240 | 122 | 53 | 413 | 396 | | 336 | 1,309 | |
| | 11 Non-metallic mineral products | T | 2,243 | | 521 | 295 | 364 | 22 | | 73 | 633 | 22 | 2,059 | 1,624 | | 109 | 13,940 | 11 |
| | | D | 2,087 | | 516 | 221 | 261 | 11 | | 46 | 521 | 11 | 1,422 | 986 | | 102 | 12,351 | |
| | | I | 156 | | 5 | 74 | 102 | 11 | | 27 | 112 | 11 | 637 | 638 | | 7 | 1,589 | |
| | 12 Basic metal industries, metal products machinery, equipment | T | 3,302 | | 800 | 3,256 | 1,541 | 2,244 | 189 | 5,134 | 2,803 | 638 | 2,351 | 69,477 | | 1,884 | 27,777 | 12 |
| | | D | 2,500 | | 500 | 3,919 | 1,116 | 1,197 | 111 | 3,309 | 1,792 | 369 | 1,536 | 25,901 | | 1,275 | 18,322 | |
| | | I | 802 | | 241 | 1,337 | 425 | 1,047 | 78 | 1,825 | 1,011 | 269 | 815 | 43,576 | | 609 | 9,455 | |
| | 13 Other manufacturing industries | T | | | | | | | | | | | | | | | | 13 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 14 Electricity gas and water | T | 1,257 | | 267 | 2,340 | 905 | 931 | 131 | 956 | 600 | 559 | 1,994 | 1,789 | | 3,065 | 3,048 | 14 |
| | | D | 1,257 | | 267 | 2,340 | 905 | 931 | 131 | 676 | 600 | 559 | 1,394 | 1,707 | | 2,622 | 1,048 | |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | 433 | - | |
| | 15 Building and other constructions | T | | | 234 | 706 | 198 | 184 | 13 | 486 | 212 | 1,563 | 407 | 715 | | | 19,313 | 15 |
| | | D | | | 234 | 706 | 198 | 184 | 13 | 486 | 212 | 1,563 | 407 | 715 | | | 19,313 | |
| | | I | | | - | - | - | - | - | - | - | - | - | - | | | - | |

Million de livres kenyote

| | DEMANDE INTERMEDIAIRE | | | | | DEMANDE FINALE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Commerce de gros et de détail | Transport et communications | Administration publique | Autres services | Activités mal définies ou insuffisamment désignées | TOTAL DEMANDE INTERMEDIAIRE | Dépenses de consommation privée | Consommation publique | Formation brute de capital fixe | Variation des stocks | Exportations | TOTAL DEMANDE FINALE | Ajustement statistique | TOTAL GENERAL | EMPLOIS / BRANCHES | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| 1 | | 15<br>15<br>— | 460<br>452<br>8 | 618<br>513<br>105 | | 148,458<br>139,481<br>8,977 | 321,679<br>319,403<br>2,276 | | 28,765<br>28,620<br>145 | | 141,178<br>141,178<br>- | 491,122<br>488,701<br>2,421 | | 639,580<br>628,182<br>11,398 | T<br>D<br>I | 1 Agriculture<br>Sylviculture<br>Pêche |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | 3<br>—<br>3 | | | | 11,720<br>8,692<br>3,028 | 937<br>937<br>- | | | | 2,518<br>2,518<br>- | 3,455<br>3,455<br>- | | 15,175<br>12,147<br>3,028 | T<br>D<br>I | 2 Charbon, Pétrole brut, gaz naturel |
| 4 | | 1,278<br>1,237<br>41 | 17,373<br>17,440<br>133 | 29,615<br>29,248<br>367 | | 148,601<br>141,419<br>7,182 | 118,376<br>108,927<br>9,449 | | | | 31,907<br>31,907<br>- | 150,283<br>140,834<br>9,449 | | 298,884<br>282,253<br>16,631 | T<br>D<br>I | 3 Autres Industries extractives |
| 5 | | 681<br>544<br>137 | 17<br>14<br>3 | 12,301<br>11,281<br>1,020 | | 15,974<br>14,362<br>1,612 | 67,611<br>65,284<br>2,327 | | | | 1,244<br>1,244<br>- | 68,855<br>66,528<br>2,327 | | 84,829<br>80,890<br>3,939 | T<br>D<br>I | 4 Produits alimentaires |
| 6 | 896<br>824<br>72 | 678<br>569<br>109 | 621<br>421<br>200 | 105<br>17<br>88 | | 26,553<br>9,224<br>17,329 | 61,704<br>44,020<br>17,684 | | | | 5,597<br>5,597<br>- | 67,301<br>46,617<br>27,684 | | 93,854<br>58,841<br>35,013 | T<br>D<br>I | 5 Boissons et tabacs |
| 7 | | 7<br>0<br>7 | 111<br>11<br>100 | 11<br>2<br>9 | | 1,022<br>670<br>352 | 10,942<br>8,933<br>2,009 | | | | 2,252<br>2,252<br>- | 13,194<br>11,185<br>2,009 | | 14,216<br>11,855<br>2,361 | T<br>D<br>I | 6 Textiles<br>Habillement |
| 8 | 2,748<br>2,453<br>295 | 2,738<br>2,634<br>104 | 4,788<br>4,513<br>275 | 3,523<br>3,107<br>416 | | 71,529<br>60,582<br>10,947 | 9,329<br>6,587<br>2,742 | | 2,884<br>2,611<br>253 | | 9,819<br>9,819<br>- | 22,032<br>19,017<br>2,995 | | 93,341<br>78,399<br>13,943 | T<br>D<br>I | 7 Chaussures et industries du cuir |
| 9 | 790<br>495<br>295 | 1,900<br>1,095<br>805 | 2,642<br>1,260<br>1,382 | 1,503<br>742<br>761 | | 78,632<br>27,930<br>50,722 | 40,942<br>36,507<br>4,435 | | | | 20,505<br>20,505<br>- | 61,447<br>57,012<br>4,435 | | 140,079<br>84,922<br>55,157 | T<br>D<br>I | 8 Bois, papier et impression |
| 10 | 3,819<br>3,468<br>351 | 24,050<br>20,721<br>3,329 | 4,963<br>4,408<br>555 | 2,808<br>2,540<br>264 | | 80,846<br>72,276<br>8,570 | 9,125<br>8,722<br>403 | | | | 46,881<br>46,881<br>- | 56,006<br>55,603<br>403 | | 136,852<br>127,879<br>8,973 | T<br>D<br>I | 9 Produits chimiques |
| 11 | | 178<br>107<br>71 | 53<br>30<br>23 | 137<br>73<br>64 | | 22,271<br>16,746<br>5,525 | 4,912<br>4,181<br>731 | | 34<br>-<br>34 | | 8,194<br>8,194<br>- | 13,140<br>22,375<br>765 | | 35,411<br>31,12.<br>4,290 | T<br>D<br>I | 10 Dérivés du Charbon et du pétrole<br>11 Produits minéraux non métalliques |
| 12 | 2,320<br>1,571<br>749 | 23,344<br>21,008<br>2,336 | 4,146<br>2,827<br>1,319 | 3,024<br>1,696<br>1,328 | | 360,050<br>30,829<br>69,421 | 47,853<br>27,224<br>20,629 | | 150,548<br>40,090<br>89,630 | | 13,338<br>13,338<br>- | 191,719<br>81,452<br>110,267 | | 551,769 ··<br>172,881<br>178,689 | T<br>D<br>I | 12 Métallurgie de base, métaux machines, matériel |
| 13 | | | | | | | | | | | | | | | T<br>D<br>I | 13 Autres industries manufacturières |
| 14 | 745<br>745<br>- | 2,696<br>2,696<br>- | 2,053<br>2,045<br>8 | 1,636<br>1,638<br>- | | 22,092<br>21,823<br>441 | 6,460<br>6,384<br>76 | | | | 467<br>467<br>- | 6,927<br>6,851<br>76 | | 28,989<br>28,472<br>517 | T<br>D<br>I | 14 Electricité eau, gaz |
| 15 | - | 94<br>94<br>- | 14,456<br>14,456<br>- | 5,599<br>5,599<br>- | | 44,524<br>44,524<br>- | 424<br>424<br>- | | 118,707<br>117,707<br>1,000 | | - | 119,131<br>118,131<br>1,000 | | 163,638<br>162,653<br>1,000 | T<br>D<br>I | 15 Bâtiments et travaux publics |

Biens et Services

| | INPUTS | USE | INTERMEDIATE CONSUMPTION<br>Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude petroleum, natural gas<br>Charbon pétrole brut, gaz naturel | Other Mining and Quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et habillement | Furniture and manufacture of leather<br>Ameublement et industrie du cuir | Wood products, paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivés du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other manufacturing Industries<br>Autres industries manufacturières | Electricity, gas and water<br>Electricité, eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | 9,431 | | 403 | 13,510 | 3,044 | 3,672 | 512 | 4,462 | 3,492 | 250 | 1,204 | 8,319 | | 722 | 7,615 | |
| | | D | 9,431 | | 403 | 13,510 | 3,044 | 3,672 | 512 | 4,462 | 3,492 | 250 | 1,204 | 8,319 | | 722 | 7,615 | 16 |
| | | I | 0 | | 0 | - | - | - | - | - | - | - | - | - | | - | - | |
| | 17 Transport and Communication | T | 838 | | 1,102 | 2,858 | 1,105 | 338 | 30 | 1,045 | 1,286 | 51 | 1,275 | 1,410 | | 623 | 3,052 | |
| | | D | 838 | | 1,073 | 2,846 | 1,089 | 326 | 30 | 1,028 | 1,257 | 51 | 1,267 | 1,387 | | 538 | 2,975 | 17 |
| | | I | - | | 29 | 12 | 16 | 12 | - | 17 | 29 | - | 8 | 23 | | 85 | 77 | |
| | 18 Public administration | T | 308 | | | 181 | 139 | | | | | 322 | | | | | | |
| | | D | 308 | | | 181 | 139 | | | | | 322 | | | | | | 18 |
| | | I | - | | | - | - | | | | | - | | | | | | |
| | 19 Other Services | T | 3,686 | | 1,160 | 6,923 | 1,520 | 4,740 | 341 | 4,896 | 3,824 | 945 | 855 | 9,353 | | 2,350 | 7,848 | |
| | | D | 2,832 | | 893 | 6,431 | 1,291 | 4,581 | 246 | 4,571 | 3,307 | 697 | 778 | 8,638 | | 2,214 | 7,588 | 19 |
| | | I | 854 | | 267 | 492 | 229 | 159 | 95 | 325 | 517 | 248 | 77 | 715 | | 136 | 260 | |
| | 20 Unallocated items and statistical adjustment | T | 22 | | 554 | 1,478 | 228 | 1,730 | 122 | 588 | 323 | 228 | 1,385 | 704 | | 683 | 1,875 | |
| | | D | 22 | | 554 | 1,478 | 228 | 1,730 | 121 | 588 | 323 | 228 | 1,385 | 704 | | 683 | 1,875 | 20 |
| | | I | - | | - | - | - | - | - | - | - | - | - | - | | - | - | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 83,665 | | 8,598 | 241,139 | 26,127 | 39,211 | 8,272 | 54,861 | 55,427 | 318,221 | 19,075 | 111,803 | | 13,807 | 46,025 | |
| | | D | 68,874 | | 7,583 | 220,123 | 21,721 | 20,165 | 5,982 | 41,450 | 36,338 | 4,866 | 15,098 | 59,011 | | 12,087 | 101,208 | 21 |
| | | I | 14,791 | | 1,015 | 21,016 | 4,406 | 19,046 | 2,290 | 15,411 | 19,089 | 313,355 | 3,977 | 52,792 | | 1,720 | 14,817 | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | 27,384 | | 716 | 5,517 | 1,802 | 2,241 | 225 | 2,933 | 3,133 | 897 | 1,788 | 4,291 | | 2,142 | 6,045 | 22 |
| | 23 Compensation of employees | | 58,609 | | 1,854 | 12,867 | 6,618 | 7,031 | 1,130 | 11,365 | 8,475 | 807 | 3,524 | 22,010 | | 5,230 | 37,820 | 23 |
| | 24 Indirect taxes less subsidies | | 2,498 | | 141 | 8,811 | 53,686 | 6,874 | 1,122 | 3,814 | 7,064 | 6,522 | 846 | 72,001 | | 443 | 434 | 24 |
| | 25 Other incomes | | 455,936 | | 840 | 13,918 | 12,657 | 3,484 | 1,206 | 6,626 | 10,823 | 3,432 | 5,808 | 11,976 | | 6,830 | 2,331 | 25 |
| | 26 Gross value added | | 544,517 | | 3,551 | 41,114 | 54,763 | 19,630 | 3,583 | 24,539 | 29,495 | 11,658 | 12,046 | 60,278 | | 14,665 | 46,630 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 628,182 | | 12,147 | 282,253 | 80,890 | 58,841 | 11,855 | 79,399 | 84,922 | 327,879 | 31,121 | 172,081 | | 28,472 | 262,655 | 27 |
| | 28 Imports CIF | | 10,975 | | 94,318 | 14,656 | 1,943 | 25,910 | 1,715 | 12,144 | 50,833 | 8,386 | 3,552 | 154,483 | | 517 | 1,000 | 28 |
| | 29 Imports duties | | 423 | | 18,674 | 1,975 | 1,996 | 9,103 | 648 | 1,799 | 4,324 | 587 | 738 | 25,206 | | - | - | 29 |
| | 30 Imports, included duties | | 11,398 | | 112,992 | 16,631 | 3,939 | 35,013 | 2,361 | 13,943 | 55,157 | 8,973 | 4,290 | 179,689 | | 517 | 1,000 | 30 |
| | 31 Statistical adjustment | | | | | | | | | | | | | | | | | 31 |
| | 32 TOTAL RESSOURCES | | 639,580 | | 125,139 | 298,884 | 84,829 | 93,854 | 14,216 | 93,341 | 140,079 | 336,852 | 35,411 | 351,769 | | 28,989 | 263,655 | 32 |

080-0888

| | CONSOMMATION INTERMEDIAIRE | | | | | | EMPLOIS FINALS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and communication<br>Transports et communication | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical adjustment<br>Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>Formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USES<br>TOTAL DES EMPLOIS FINALS | Statistical Adjustment<br>Ajustement statistique | TOTAL USES<br>TOTAL DES EMPLOIS | | EMPLOIS / ENTREES |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| 16 | 2,888 | 4,886 | 2,177 | 1,430 | | 68,217 | 53,265 | | 9,330 | | 49,953 | 112,548 | | 180,765 | T | Commerce de gros et de détail |
| | 2,888 | 4,886 | 2,172 | 1,430 | | 68,212 | 51,452 | | 9,292 | | 49,953 | 110,697 | | 178,909 | D | |
| | - | - | 5 | - | | 5 | 1,813 | | 38 | | - | 1,851 | | 1,856 | I | |
| 17 | 13,744 | 58,648 | 10,414 | 4,662 | | 94,501 | 67,452 | | | | 71,980 | 139,412 | | 233,913 | T | Transports et communications |
| | 13,482 | 42,387 | 9,756 | 4,413 | | 84,743 | 52,469 | | | | 71,980 | 124,429 | | 209,172 | D | |
| | 262 | 8,261 | 658 | 249 | | 9,758 | 14,983 | | | | - | 14,983 | | 24,741 | I | |
| 18 | | 68 | 242 | 39 | | 1,299 | 19,889 | 253,791 | | | 1,001 | 274,681 | | 275,980 | T | Administrations publiques |
| | | 68 | 242 | 39 | | 1,299 | 13,689 | 253,791 | | | 1,001 | 268,481 | | 269,780 | D | |
| | | - | - | - | | - | 6,200 | - | | | - | 6,200 | | 6,200 | I | |
| 19 | 27,039 | 24,963 | 18,475 | 26,072 | | 142,990 | 117,677 | | 702 | | 40,453 | 158,832 | | 301,822 | T | Autres Services |
| | 23,961 | 21,627 | 14,607 | 20,247 | | 124,509 | 122,650 | | 699 | | 40,453 | 153,802 | | 278,311 | D | |
| | 3,078 | 3,336 | 3,868 | 5,825 | | 18,481 | 5,027 | | 3 | | - | 5,030 | | 23,511 | I | |
| 20 | 2,202 | 932 | 3,383 | 2,417 | 23,880 | 42,734 | -45,057 | | | | 4,290 | -40,767 | | 1,967 | T | Activités mal désignées et ajustement statistique |
| | 2,202 | 932 | 3,383 | 2,417 | 23,480 | 42,333 | -46,577 | | - | | 4,290 | -42,287 | | 46 | D | |
| | - | - | - | - | 400 | 401 | 1,520 | | | | - | 1,520 | | 1,921 | I | |
| 21 | 57,191 | 139,154 | 84,572 | 92,716 | 23,880 | 1,291,747 | 913,520 | 253,791 | 290,430 | | 451,557 | 1,909,298 | | 3,201,045 | T | TOTAL DES ENTREES DE BIENS ET SERVICES |
| | 52,089 | 120,628 | 77,837 | 82,200 | 23,480 | 971,022 | 821,898 | 253,791 | 199,319 | | 451,557 | 1,725,883 | | 2,696,915 | D | |
| | 5,102 | 18,538 | 6,735 | 10,516 | 400 | 320,715 | 92,504 | - | 91,111 | | - | 183,415 | | 504,130 | I | |
| 22 | 7,593 | 11,719 | 1,830 | 6,938 | -3 | 87,391 | | | | | | | | | | Consommation brute de capital fixe |
| 23 | 53,160 | 41,200 | 182,797 | 70,202 | | 524,500 | | | | | | | | | | Rémunération des salariés |
| 24 | 2,514 | 860 | 498 | 10,921 | 49 | 109,029 | | | | | | | | | | Inputs indirects moins subventions |
| 25 | 58,451 | 16,234 | 82 | 97,534 | -23,880 | 684,248 | | | | | | | | | | Autres revenus |
| 26 | 121,718 | 70,013 | 185,208 | 185,595 | -23,854 | 1,405,168 | | | | | | | | | | Valeur ajoutée brute |
| 27 | 178,909 | 209,172 | 269,780 | 278,311 | 46 | 2,696,915 | | | | | | | | | | PRODUCTION BRUTE |
| 28 | 1,856 | 24,741 | 6,200 | 23,489 | 1,657 | 438,371 | | | | | | | | | | Importations CAF |
| 29 | | | | 22 | 264 | 65,759 | | | | | | | | | | Droits et taxes sur importations |
| 30 | 1,856 | 24,741 | 6,200 | 23,511 | 1,921 | 504,130 | | | | | | | | | | Importations, y compris droits et taxes |
| 31 | | | | | | | | | | | | | | | | Ajustement statistique |
| 32 | 180,765 | 233,913 | 275,980 | 301,822 | 1,967 | 3,201,045 | | | | | | | | | | RESSOURCES TOTALES |

NOTE: T - Total inputs
D - Domestically produced inputs
I - Imported inputs

NOTE: T - Entrées totales
D - Entrées d'origine intérieur
I - Entrées importées

BIENS ET SERVICES | SERVICES PRODUCTIFS | RESSOURCES

Million DH

# MOROCCO 1973 MAROC

Million de DH

INTERMEDIATE CONSUMPTION — CONSOMMATION INTERMEDIAIRE

| ISIC / CITI / NAMEA | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et habillement | Footwear and manufacture of leather<br>Chaussures et industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivés du pétrole et du charbon | Non-metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| 1 | Agriculture<br>Forestry<br>Fishing | T<br>D<br>I | 1,189.8<br>... | | 24.5<br>... | 4,152.9<br>... | 85.4<br>... | 133.3<br>... | 8.3<br>... | 133.8<br>... | 5.1<br>... | | 1.9<br>... | 0.2<br>... | 0.5<br>... | | | 1 |
| 2 | Coal, Crude petroleum, natural gas | T<br>D<br>I | 1.8<br>... | 1.6<br>... | 0.5<br>... | 16.7<br>... | 0.1<br>... | | | | | 257.3<br>... | 2.6<br>... | 4.3<br>... | | 53.5<br>... | 1.2<br>... | 2 |
| 3 | Other mining and quarrying | T<br>D<br>I | | | 11.9<br>... | 5.3<br>... | | | 1.8<br>... | 0.9<br>... | 75.8<br>... | | 45.2<br>... | 22.4<br>... | | | 188.3<br>... | 3 |
| 4 | Food manufacturing | T<br>D<br>I | 194.8<br>... | | | 1,657.9<br>... | 64.9<br>... | 7.4<br>... | 40.8<br>... | 1.7<br>... | 13.5<br>... | | 0.5<br>... | 0.2<br>... | 0.5<br>... | | | 4 |
| 5 | Beverages and Tobacco | T<br>D<br>I | | | | 0.5<br>... | 68.2<br>... | | | | 0.9<br>... | | | | | | | 5 |
| 6 | Textiles and Clothing | T<br>D<br>I | 55.8<br>... | 0.2<br>... | 4.8<br>... | 56.0<br>... | 8.8<br>... | 1,245.8<br>... | 11.4<br>... | 30.5<br>... | 33.8<br>... | 0.7<br>... | 1.6<br>... | 15.3<br>... | 3.4<br>... | 1.8<br>... | 0.1<br>... | 6 |
| 7 | Footwear and manufacture of leather | T<br>D<br>I | 1.8<br>... | | | | | 12.5<br>... | 98.1<br>... | | 0.1<br>... | | | 0.1<br>... | 0.2<br>... | 0.1<br>... | | 7 |
| 8 | Wood products paper and printing | T<br>D<br>I | 71.8<br>... | 5.9<br>... | 18.7<br>... | 114.6<br>... | 29.7<br>... | 29.5<br>... | 18.8<br>... | 576.3<br>... | 67.4<br>... | 0.5<br>... | 33.1<br>... | 56.4<br>... | 1.1<br>... | 0.7<br>... | 361.7<br>... | 8 |
| 9 | Chemicals | T<br>D<br>I | 370.5<br>... | 4.2<br>... | 87.6<br>... | 66.2<br>... | 24.7<br>... | 117.6<br>... | 20.8<br>... | 58.3<br>... | 548.3<br>... | 28.2<br>... | 22.1<br>... | 133.8<br>... | 3.3<br>... | 15.1<br>... | 168.5<br>... | 9 |
| 10 | Petroleum and coal products | T<br>D<br>I | 118.9<br>... | 0.9<br>... | 53.8<br>... | 66.3<br>... | 5.8<br>... | 23.4<br>... | 1.6<br>... | 17.7<br>... | 51.7<br>... | 138.8<br>... | 61.9<br>... | 14.4<br>... | 0.8<br>... | 61.1<br>... | 137.7<br>... | 10 |
| 11 | Non-metallic mineral products | T<br>D<br>I | | 0.2<br>... | 10.8<br>... | 1.3<br>... | 21.8<br>... | 0.1<br>... | 3.3<br>... | 2.7<br>... | 11.1<br>... | 9.3<br>... | 88.1<br>... | 15.6<br>... | 0.6<br>... | 3.4<br>... | 738.9<br>... | 11 |
| 12 | Basic metal industries, metal products machinery, equipment | T<br>D<br>I | 216.7<br>... | 19.2<br>... | 88.8<br>... | 257.6<br>... | 21.8<br>... | 55.2<br>... | 6.4<br>... | 61.6<br>... | 49.6<br>... | 21.8<br>... | 51.6<br>... | 1,488.7<br>... | 81.9<br>... | 17.2<br>... | 882.3<br>... | 12 |
| 13 | Other manufacturing industries | T<br>D<br>I | 1.5<br>... | | 2.8<br>... | | | 1.9<br>... | | | 0.1<br>... | 0.2<br>... | | | 3.8<br>... | | | 13 |
| 14 | Electricity gas and water | T<br>D<br>I | 25.3<br>... | 3.2<br>... | 31.2<br>... | 50.8<br>... | 4.3<br>... | 18.8<br>... | 1.9<br>... | 14.5<br>... | 12.8<br>... | 4.2<br>... | 21.5<br>... | 13.2<br>... | 0.4<br>... | 248.9<br>... | 6.5<br>... | 14 |
| 15 | Building and other constructions | T<br>D<br>I | 7.4<br>... | | 0.8<br>... | 7.8<br>... | 1.8<br>... | 3.7<br>... | 0.6<br>... | 2.4<br>... | 3.2<br>... | 1.8<br>... | 2.8<br>... | 3.3<br>... | 5.2 | 218.8<br>... | | 15 |

GOODS AND SERVICES

Million DH

MOROCCO

MAROC

Million de DH

| (ISIC) / (CPA) | | 1 | 2 | 3 | 4 | 5 | 6 | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | | | | | | | | | | | | | | | 16 |
| | 17 Transport and communication | T | 55,0 | 1,0 | 151,2 | 122,4 | 15,1 | 80,6 | 4,3 | 28,4 | 51,2 | 4,0 | 20,9 | 73,0 | 0,6 | 10,8 | 258,2 | 17 |
| | | D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other services | T | 96,3 | 1,0 | 174,6 | 225,0 | 45,0 | 121,4 | 14,1 | 82,8 | 74,5 | 17,0 | 36,5 | 91,0 | 1,0 | 71,5 | 135,4 | 19 |
| | | D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | 20 Unallocated items and statistical adjustment | T | | | | | | | | | | | | | | | | 20 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 21 TOTAL INPUT OF GOODS AND SERVICES | T | 2,306,8 | 33,0 | 862,4 | 4,738,7 | 387,0 | 1,831,6 | 213,9 | 792,4 | 2 0,1 | 1,164,0 | 980,1 | 1,864,0 | 98,3 | 481,7 | 2 181,9 | 21 |
| | | D | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| | | I | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 22 |
| | 23 Compensation of employees | | 1,109,4 | 50,7 | 480,3 | 508,8 | 98,5 | 565,4 | 73,6 | 266,2 | 241,2 | 42,9 | 158,2 | 358,6 | 11,7 | 172,4 | 1,345,8 | 23 |
| | 24 Indirect taxes less subsidies | | -22,4 | - | 182,8 | -43,9 | 368,6 | 36,2 | 6,0 | 16,3 | -11,1 | 238,3 | 31,6 | 101,0 | 9,5 | 33,0 | 212,0 | 24 |
| | 25 Other income | | 5,153,6 | -10,8 | 2,592,8 | 1,108,5 | 173,0 | 519,8 | 74,3 | 324,5 | 438,7 | 215,4 | 187,9 | 391,0 | 38,1 | 149,2 | 778,7 | 25 |
| | 26 Gross value added | | 6,240,6 | 38,8 | 3,255,9 | 1,573,4 | 640,1 | 1,121,4 | 154,1 | 607,0 | 656,8 | 496,8 | 357,7 | 883,0 | 51,3 | 354,6 | 2,335,7 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 8,547,4 | 73,8 | 5,918,3 | 8,312,1 | 997,7 | 2,953,0 | 370,0 | 1,399,4 | 1,635,9 | 1,661,0 | 747,8 | 2,744,0 | 149,6 | 836,3 | 5,517,5 | 27 |
| | 28 Imports CIF | | 1,537,9 | 913,0 | 45,7 | 1,588,3 | 52,2 | 539,8 | 9,8 | 313,7 | 1,004,8 | 384,0 | 145,6 | 4,038,0 | 28,1 | - | - | 28 |
| | 29 Imports duties | | -30,9 | 61,7 | 11,1 | -500,7 | 74,1 | 192,4 | 5,4 | 110,6 | 291,5 | 98,0 | 75,2 | 564,0 | 18,5 | - | - | 29 |
| | 30 Imports, net duties | | 1,487,0 | 975,0 | 56,8 | 1,087,6 | 126,3 | 732,2 | 15,2 | 424,3 | 1,296,3 | 482,0 | 220,8 | 4,602,0 | 46,6 | - | - | 30 |
| | 31 Statistical adjustment | | 2,298,8 | 16,2 | 18,1 | 1,074,9 | 167,8 | 676,1 | 232,7 | 327,6 | 645,0 | 273,0 | 78,3 | 1,117,0 | 80,7 | - | - | 31 |
| | 32 TOTAL RESOURCES | | 12,383,2 | 1,065,0 | 3,993,2 | 10,472,6 | 1,271,8 | 4,361,3 | 617,9 | 2,151,3 | 3,577,2 | 2,241,0 | 1,046,9 | 8,856,0 | 278,5 | 836,3 | 5,517,5 | 32 |

Million DH — MOROCCO — 1975 — MAROC — Million de DH

| | INTERMEDIATE CONSUMPTION | | | | | | FINAL USE | | | | IMPORTS FINAL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade<br>Commerce de gros et de détail | Transport and Communications<br>Transport et Communications | Public Administration<br>Administration publique | Other Services<br>Autres Services | Unallocated items and statistical discrepancy<br>Activités mal désignées et écarts statistiques | TOTAL INTERMEDIATE CONSUMPTION<br>TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption<br>Consommation privée | Public Consumption<br>Consommation publique | Gross fixed capital formation<br>Formation brute de capital fixe | Changes in stocks<br>Variation de stocks | Exports<br>Exportations | TOTAL FINAL USE<br>TOTAL USE IMPORTS FINAL | Customs duties<br>Droits de douane | TOTAL USE<br>TOTAL USE IMPORTS | DETAIL | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | |
| 1 | 1,0 | | 26,0 | 24,0 | | 9,717,9 | 4,971,3 | | 634,0 | 289,0 | 1,848,0 | 6,160,3 | | 12,383,3 | T D I | Agriculture<br>1 Sylviculture<br>Pêche |
| 2 | | 2,0 | 15,5 | 23,7 | | 1,879,8 | 1,3 | | | -25,2 | 9,8 | -14,0 | | 1,865,5 | T D I | Charbon, Pétrole<br>2 brut, gaz<br>naturel |
| 3 | | 1,6 | | 8,8 | | 286,8 | 9,6 | | | 44,8 | 5,673,6 | 5,727,2 | | 3,993,2 | T D I | Autres Industries<br>3 extractives |
| 4 | | 4,3 | 72,8 | 284,7 | | 2,324,1 | 7,388,9 | | | -51,5 | -611,5 | 8,148,0 | | 18,472,6 | T D I | 4 Produits alimentaires |
| 5 | | 4,8 | 6,8 | 83,1 | | 135,4 | 1,088,5 | | | 13,3 | 114,8 | 1,136,6 | | 1,271,8 | T D I | 5 Boissons et tabacs |
| 6 | 11,3 | 7,7 | 43,8 | 15,5 | | 1,322,0 | 2,159,0 | | | 32,0 | 648,5 | 2,839,5 | | 4,161,5 | T D I | 6 Textiles<br>Habillement |
| 7 | | 0,3 | 12,8 | 0,1 | | 116,6 | 244,5 | | | 3,5 | 253,5 | 501,5 | | 617,9 | T D I | Chaussures et<br>7 industries du<br>cuir |
| 8 | 118,3 | 18,4 | 73,7 | 138,2 | | 1,321,5 | 607,1 | | 50,0 | 34,2 | 138,7 | 830,0 | | 2,151,5 | T D I | Bois, papier et<br>8 impression |
| 9 | 32,0 | 88,5 | 76,4 | 229,3 | | 2,890,3 | 1,175,0 | | 20,0 | 112,8 | 179,1 | 1,486,9 | | 3,377,2 | T D I | Produits<br>9 chimiques |
| 10 | 34,0 | 288,2 | 152,7 | 38,2 | | 1,235,7 | 845,5 | | | 18,1 | 140,7 | 1,004,5 | | 2,241,2 | T D I | Dérivés du<br>10 Charbon et<br>du pétrole |
| 11 | | 8,1 | 12,1 | | | 986,2 | 104,4 | | | 6,4 | 27,9 | 138,7 | | 1,046,9 | T D I | Produits minéraux<br>11 non métalliques |
| 12 | 118,6 | 168,8 | 344,6 | 516,1 | | 4,159,0 | 1,062,4 | | 3,634,1 | -136,5 | 157,0 | 4,697,0 | | 8.856,2 | T D I | Métallurgie de base,<br>12 métaux ouvrés,<br>matériel |
| 13 | | 1,9 | 28,1 | 10,8 | | 48,4 | 208,4 | | 2,0 | 6,5 | 15,4 | 230,3 | | 278,8 | T D I | Autres industries<br>13 manufacturières |
| 14 | 10,2 | 53,3 | 48,2 | 71,3 | | 654,0 | 181,5 | | | | | 181,5 | | 835,5 | T D I | Electricité<br>14 eau, gaz |
| 15 | 15,6 | 26,6 | 148,7 | 73,6 | | 518,8 | 297,7 | | -,703,0 | | | 5,000,7 | | 5,317,5 | T D I | Bâtiments et<br>15 travaux publics |

SECTEURS ET BRANCHES

Million DH — MOROCCO — 1973 — MAROC — Million de DH

| | Commerce de gros et de détail | Transports et communications | Administration publique | Autres services | Activités mal désignées ou n'entrant pas dans la production intérieure | TOTAL INTERMEDIAIRES (PRODUCTION INTERIEURE) | Consommation privée | Consommation publique | Formation brute de capital fixe | Variations de stocks | Exportations | TOTAL DES EMPLOIS FINAUX | Ajustement statistique | TOTAL DES EMPLOIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 16 | | | | | | | | | | | | | | |
| 17 | 421,3 | 166,1 | 192,4 | 171,6 | | 1,752,4 | 980,6 | | | | 722,5 | 1,877,6 | | 2,809,6 |
| 18 | | | | | | - | | 5,266,5 | | | | 5,266,6 | | 5,266,6 |
| 19 | 884,6 | 516,5 | 368,8 | 829,8 | | 5,897,4 | 3,486,8 | | | | 727,8 | 4,114,6 | | 8,012,6 |
| 20 | | | | | | | | | | | | | | |
| 21 | 1,617,4 | 1,134,1 | 1,521,6 | 2,510,6 | | 27,727,3 | 24,224,8 | 5,266,5 | 8,853,1 | 261,8 | 8,416,8 | 47,882,6 | | 74,750,6 |
| 22 | | | | | | | | | | | | | | |
| 23 | 667,3 | 821,8 | 3,732,2 | 1,854,6 | | 12,571,8 | | | | | | | | |
| 24 | 45,3 | 41,2 | 12,7 | 225,6 | | 1,474,5 | | | | | | | | |
| 25 | 4,678,8 | 675,8 | - | 3,463,6 | | 20,942,6 | | | | | | | | |
| 26 | 5,391,6 | 1,538,2 | 3,744,2 | 5,543,6 | | 34,988,9 | | | | | | | | |
| 27 | 7,009,2 | 2,672,3 | 5,266,5 | 7,853,6 | - | 62,716,2 | | | | | | | | |
| 28 | - | 137,6 | - | 158,6 | | 10,680,7 | | | | | | | | |
| 29 | - | - | - | - | | 1,353,6 | | | | | | | | |
| 30 | - | 137,6 | - | 158,6 | | 12,043,3 | | | | | | | | |
| 31 | -7,009,2 | - | - | - | | - | | | | | | | | |
| 32 | - | 2,809,9 | 5,266,5 | 8,012,6 | - | 74,750,5 | | | | | | | | |

NOTE: 1 — Total inputs
2 — Intermediately produced inputs
3 — Imported inputs

NOTE: 1 — Entrées totales
2 — Entrées d'origine intérieure
3 — Entrées importées

| | |
|---|---|
| 15 | Commerce de gros et de détail |
| 17 | Transports et communications |
| 18 | Administrations publiques |
| 19 | Autres services |
| 20 | Activités mal désignées ou n'entrant pas dans la production |
| 21 | TOTAL DES BRANCHES DE BIENS ET SERVICES |
| 22 | Consommation privée |
| 23 | Consommation des administrations publiques |
| 24 | Formation brute de capital fixe |
| 25 | Variations de stocks |
| 26 | Exportations |
| 27 | Valeur ajoutée brute |
| 28 | IMPORTATIONS CAF |
| 29 | Droits et taxes sur importations |
| 30 | Importations, y compris droits et taxes |
| 31 | Ajustement statistique |
| 32 | PRODUCTION TOTALE |

Million CFA francs

| GOODS AND SERVICES | | | INTERMEDIATE CONSUMPTION | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inputs | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon, pétrole brut, gaz naturel | Other mining and quarrying<br>Autres industries extractives | Food manufactur-ing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et habillement | Footwear and Manufacture of leather<br>Chaussures et industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivés du charbon et du pétrole | Non-metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other Manufacturing Industries<br>Autres industries manufactu-rières | Electricity gas and water<br>Electricité gaz et eau | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 1 Agriculture Forestry Fishing | T | 330,6 | | | 1 000,1 | 778,5 | 2 457,2 | | | | | 4,2 | | | | | |
| | | D | 326,0 | | | 1 000,5 | 763,0 | 2 457,2 | | | | | 4,0 | | | | | 1 |
| | | I | 4,6 | | | 28,4 | 6,5 | - | | | | | - | | | | | |
| | 2 Coal, Crude petroleum, natural gas | T | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | 2 |
| | | I | | | | | | | | | | | | | | | | |
| | 3 Other Mining and quarrying | T | | | | 5,2 | | | | | | | | | | | 31,7 | |
| | | D | | | | - | | | | | | | | | | | 31,7 | 3 |
| | | I | | | | 5,2 | | | | | | | | | | | - | |
| | 4 Food manufacturing | T | 2,8 | | | 2 482,7 | 158,0 | | | | | | | | | | | |
| | | D | 2,8 | | | 340,9 | 20,9 | | | | | | | | | | | 4 |
| | | I | - | | | 1 141,8 | 137,1 | | | | | | | | | | | |
| | 5 Beverages and Tobacco | T | | | | | 5,0 | | | | | | | | | | | |
| | | D | | | | | 5,0 | | | | | | | | | | | 5 |
| | | I | | | | | - | | | | | | | | | | | |
| | 6 Textiles and Clothing | T | 1,9 | | | 47,2 | | 644,5 | | 0,1 | | | | | | | | |
| | | D | - | | | 23,6 | | 167,0 | | - | | | | | | | | 6 |
| | | I | 1,9 | | | 23,6 | | 476,5 | | 0,1 | | | | | | | | |
| | 7 Footwear and manufacture of leather | T | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | 7 |
| | | I | | | | | | | | | | | | | | | | |
| | 8 Wood products paper and printing | T | | 3,0 | | 91,2 | 60,0 | 17,3 | | 136,0 | 5,0 | | 0,3 | 5,2 | | 4,7 | 107,4 | |
| | | D | | - | | 2,1 | 5,5 | 14,9 | | 5,5 | 0,1 | | - | - | | 3,2 | 121,6 | 8 |
| | | I | | 3,0 | | 89,1 | 54,5 | 2,5 | | 133,1 | 4,9 | | 0,3 | 5,2 | | 5,0 | 62,3 | |
| | 9 Chemicals | T | 434,1 | 5,3 | | 24,1 | 15,1 | 266,2 | | 7,7 | 32,8 | | | 13,5 | | 7,5 | 151,7 | |
| | | D | - | - | | - | - | - | | - | - | | | - | | - | - | 9 |
| | | I | 434,1 | 5,3 | | 24,1 | 15,1 | 266,2 | | 7,7 | 32,8 | | | 13,5 | | 7,5 | 151,7 | |
| | 10 Petroleum and coal products | T | | 88,3 | | 35,5 | 19,5 | 100,2 | | 8,5 | 6,5 | | 5,1 | 3,5 | | 529,6 | 51,5 | |
| | | D | | - | | - | - | - | | - | - | | - | - | | - | - | 10 |
| | | I | | 88,3 | | 35,5 | 19,5 | 100,2 | | 8,5 | 6,5 | | 5,1 | 3,5 | | 529,6 | 51,5 | |
| | 11 Non-metallic mineral products | T | | | | | 5,0 | | | | 31,0 | | 0,4 | | | | 319,1 | |
| | | D | | | | | - | | | | - | | - | | | | 55,0 | 11 |
| | | I | | | | | 5,0 | | | | 31,0 | | 0,4 | | | | 264,1 | |
| | 12 Basic metal industries, metal products machinery, equipment | T | 57,0 | 29,6 | | 80,6 | 30,3 | 222,5 | | 69,2 | 7,1 | | | 361,4 | | 93,7 | 633,7 | |
| | | D | - | - | | 23,6 | - | - | | - | - | | | - | | - | 145,1 | 12 |
| | | I | 57,0 | 29,6 | | 57,0 | 30,3 | 222,5 | | 69,2 | 7,1 | | | 361,4 | | 93,7 | 488,6 | |
| | 13 Other manufacturing industries | T | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | 13 |
| | | I | | | | | | | | | | | | | | | | |
| | 14 Electricity gas and water | T | | | 25,5 | 47,5 | 8,2 | 105,5 | | 9,4 | 1,9 | | 0,7 | 5,2 | | 81,3 | 24,6 | |
| | | D | | | 25,5 | 4,9 | 42,4 | 104,7 | | 9,4 | 1,9 | | 0,7 | 6,0 | | 81,3 | 24,6 | 14 |
| | | I | | | - | - | - | - | | - | - | | - | - | | - | - | |
| | 15 Building and other constructions | T | 16,5 | | | 2,9 | 8,7 | 4,2 | | 1,5 | 0,9 | | | 2,4 | | | 7,6 | |
| | | D | 16,5 | | | 2,9 | 8,7 | 4,2 | | 1,5 | 0,9 | | | 2,4 | | | 7,6 | 15 |
| | | I | - | | | - | - | - | | - | - | | | - | | | - | |

Million CFA France — CHAD — 1973 — TCHAD — Million de Francs

| | INTERMEDIATE CONSUMPTION | | | CONSOMMATION INTERMEDIAIRE | | | FINAL USE | | | EMPLOIS FINALS | | | | TOTAL USES | | EMPLOIS / ENTREES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade | Transport and Communication | Public Administration | Other Services | Unallocated items and statistical adjustment | TOTAL INTERMEDIATE CONSUMPTION | Private Consumption | Public Consumption | Gross fixed capital formation | Changes in stocks | Exports | TOTAL FINAL USES | Statistical Adjustment | | | | |
| | Commerce de gros et de détail | Transport et Communication | Administration publique | Autres Services | Activités mal désignées et ajustement statistique | TOTAL CONSOMMATION INTERMEDIAIRE | Consommation privée | Consommation publique | Formation brute de capital fixe | Variation de stocks | Exportations | TOTAL DES EMPLOIS FINALS | Ajustement Statistique | TOTAL DES EMPLOIS | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | |
| 1 | | | 200,3<br>188,2<br>12,1 | 6,0<br>6,0<br>- | | 6,522,8<br>6,278,7<br>44,1 | 28,308,3<br>27,949,4<br>358,9 | | 314,0<br>314,0<br>- | 5,3<br>-8,1<br>11,4 | 5,592,4<br>5,509,9<br>82,5 | 34,220,0<br>33,767,2<br>452,8 | | 40,542,8<br>40,045,9<br>496,9 | T<br>D<br>I | 1 | Agriculture<br>Sylviculture<br>Pêche |
| 2 | | | | | | | | | | | | | | | T<br>D<br>I | 2 | Charbon, Pétrole brut, gaz naturel |
| 3 | | | 21,1<br>1,1<br>20,0 | | | 58,0<br>32,8<br>25,2 | 201,1<br>9,8<br>191,3 | | 599,8<br>599,8<br>- | 10,3<br>10,3<br>- | 12,0<br>12,0<br>- | 823,3<br>631,9<br>191,3 | | 881,2<br>664,7<br>216,5 | T<br>D<br>I | 3 | Autres Industries extractives |
| 4 | | | 524,5<br>240,4<br>83,9 | 293,6<br>16,0<br>277,6 | | 2,821,4<br>380,9<br>2,440,5 | 8,597,5<br>6,895,2<br>2,699,3 | | | -254,3<br>- 48,0<br>-156,3 | 2,598,6<br>2,411,6<br>187,0 | 11,388,8<br>9,256,8<br>2,730,0 | | 14,808,2<br>9,637,7<br>5,170,5 | T<br>D<br>I | 4 | Produits alimentaires |
| 5 | | | 20,5<br>20,5<br>- | 1,312,0<br>1,335,0<br>177,0 | | 1,537,5<br>1,360,5<br>177,0 | 2,872,3<br>2,302,3<br>570,0 | | | - 68,0<br>- 68,0<br>- | | 2,804,3<br>2,234,3<br>570,0 | | 4,341,8<br>3,594,8<br>747,0 | T<br>D<br>I | 5 | Boissons et tabacs |
| 6 | 24,0<br>-<br>24,0 | 12,0<br>-<br>12,0 | 100,7<br>16,2<br>84,5 | 2,5<br>-<br>2,5 | | 832,7<br>187,4<br>645,3 | 2,914,9<br>1,647,8<br>1,267,1 | | | 189,6<br>189,6<br>- | 4,314,1<br>4,277,9<br>36,2 | 7,418,6<br>6,115,3<br>1,303,3 | | 8,251,3<br>6,302,7<br>1,948,6 | T<br>D<br>I | 6 | Textiles Habillement |
| 7 | | | | | | | | | | | | | | | T<br>D<br>I | 7 | Chaussures et industries du cuir |
| 8 | 45,9<br>5,8<br>34,9 | 45,8<br>15,0<br>28,8 | 257,3<br>99,0<br>159,3 | 35,0<br>13,9<br>21,1 | | 884,1<br>285,5<br>602,9 | 241,9<br>0,9<br>241,0 | | 136,0<br>136,0<br>- | | 90,0<br>-<br>9,0 | 250,0<br>-<br>250,0 | | 1,273,0<br>420,2<br>852,8 | T<br>D<br>I | 8 | Bois, papier et impression |
| 9 | 11,3<br>-<br>11,3 | 142,0<br>-<br>142,0 | 521,1<br>-<br>521,1 | 36,9<br>-<br>36,9 | | 1,664,1<br>-<br>1,664,1 | 885,9<br>152,8<br>733,1 | | | 1,3<br>1,3<br>- | 40,0<br>-<br>40,0 | 927,2<br>154,1<br>773,1 | | 2,591,3<br>154,1<br>2,437,2 | T<br>D<br>I | 9 | Produits chimiques |
| 10 | 20,7<br>-<br>20,7 | 634,9<br>-<br>624,8 | 845,1<br>-<br>845,1 | 44,5<br>-<br>44,5 | | 2,379,4<br>-<br>2,379,4 | 362,5<br>-<br>362,5 | | | | 802,5<br>-<br>802,5 | 1,165,0<br>-<br>1,165,0 | | 3,544,4<br>-<br>3,544,8 | T<br>D<br>I | 10 | Dérivées du Charbon et du pétrole |
| 11 | | 16,0<br>-<br>16,0 | 119,7<br>10,4<br>109,3 | 0,3<br>-<br>0,3 | | 491,1<br>45,4<br>445,7 | 106,0<br>6,0<br>100,0 | | | 50,0<br>-<br>50,0 | 20,0<br>-<br>20,0 | 176,0<br>6,0<br>170,0 | | 665,1<br>49,4<br>615,7 | T<br>D<br>I | 11 | Produits minéraux non métalliques |
| 12 | 65,5<br>-<br>65,5 | 339,4<br>-<br>339,4 | 567,7<br>2,7<br>565,0 | 85,2<br>-<br>85,2 | | 2,575,1<br>147,8<br>2,427,3 | 1,073,2<br>343,2<br>730,0 | | 2,848,4<br>211,9<br>2,636,5 | -14,3<br>15,7<br>-30,0 | 408,0<br>23,0<br>385,0 | 4,315,3<br>593,8<br>3,721,5 | | 6,890,4<br>741,6<br>6,148,8 | T<br>D<br>I | 12 | Métallurgie de base, métaux machines, matériel |
| 13 | | | | | | | | | | | | | | | T<br>D<br>I | 13 | Autres industries manufacturières |
| 14 | 87,2<br>87,2<br>- | 89,0<br>89,0<br>- | 363,5<br>363,5<br>- | 191,8<br>191,8<br>- | | 1,068,5<br>1,068,5<br>- | 413,0<br>413,0<br>- | | | | 200,0<br>200,0<br>- | 613,0<br>613,0<br>- | | 1,681,5<br>1,681,5<br>- | T<br>D<br>I | 14 | Electricité eau, gaz |
| 15 | 65,5<br>65,5<br>- | 18,0<br>18,0<br>- | 174,5<br>174,5<br>- | 122,9<br>122,9<br>- | | 425,3<br>425,3<br>- | 20,0<br>20,0<br>- | | 2,302,4<br>2,302,4<br>- | 40,0<br>40,0<br>- | 90,0<br>90,0<br>- | 2,452,4<br>2,452,4<br>- | | 2,877,7<br>2,877,7<br>- | T<br>D<br>I | 15 | Bâtiments et travaux publics |

BIENS ET SERVICES

Million CFA francs — CMA — 1973 — (CMA) — Million de francs CFA

| INPUTS / USES | | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Agriculture Forestry Fishing<br>Agriculture Sylviculture Pêche | Coal, Crude Petroleum natural gas<br>Charbon pétrole brut, gaz naturel | Other mining and quarrying<br>Autres Industries extractives | Food manufacturing<br>Produits alimentaires | Beverages and tobacco<br>Boissons et tabacs | Textiles and Clothing<br>Textiles et Habillement | Footwear and manufacture of leather<br>Chaussures et Industrie du cuir | Wood products paper and printing<br>Bois, papier et impression | Chemicals<br>Produits chimiques | Petroleum and coal products<br>Dérivées du charbon et du pétrole | Non metallic mineral products<br>Produits minéraux non métalliques | Basic metal<br>Métallurgie de base | Other manufacturing Industries<br>Autres industries manufacturières | Electricity gas and water<br>Electricité eau et gaz | Buildings and other construction<br>Bâtiment et travaux publics | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| GOODS AND SERVICES | 16 Wholesale and retail trade | T | | | 45,4 | 388,1 | 317,3 | 396,5 | | 7,3 | 10,0 | | 1,1 | 86,4 | | 159,4 | 194,6 | 16 |
| | | D | | | 45,4 | 388,1 | 317,1 | 396,5 | | 7,3 | 10,0 | | 1,0 | 86,4 | | 159,4 | 194,6 | |
| | | I | | | - | - | - | - | | - | - | | - | - | | - | - | |
| | 17 Transport and Communication | T | 4,5 | | 60,2 | 57,0 | 25,7 | 281,0 | | 4,9 | 2,5 | | 1,0 | 9,2 | | 10,3 | 84,1 | 17 |
| | | D | 4,5 | | 60,2 | 57,0 | 25,7 | 281,0 | | 4,0 | 2,5 | | 1,0 | 9,2 | | 10,3 | 84,1 | |
| | | I | - | | - | - | - | - | | - | - | | - | - | | - | - | |
| | 18 Public administration | T | | | | | | | | | | | | | | | | 18 |
| | | D | | | | | | | | | | | | | | | | |
| | | I | | | | | | | | | | | | | | | | |
| | 19 Other Services | T | 177,1 | | 231,4 | 228,2 | 85,8 | 212,9 | | 10,5 | 7,8 | | 2,4 | 22,1 | | 109,7 | 259,2 | 19 |
| | | D | 177,1 | | 200,1 | 153,0 | 34,6 | 120,6 | | 10,5 | 4,9 | | 2,4 | 14,9 | | 85,7 | 121,8 | |
| | | I | - | | 31,3 | 71,2 | 51,2 | 92,3 | | - | 2,9 | | - | 7,2 | | 24,2 | 134,4 | |
| | 20 Unallocated items and statistical adjustment | T | | | 2,7 | | 9,0 | | | | | | | | | | | 20 |
| | | D | | | - | | - | | | | | | | | | | | |
| | | I | | | 2,7 | | 9,0 | | | | | | | | | | | |
| | 21 TOTAL INPUTS OF GOODS AND SERVICES | T | 1,064,3 | | 494,8 | 5,024,4 | 1,558,6 | 5,190,4 | | 249,0 | 93,5 | | 12,8 | 507,5 | | 999,5 | 1,941,5 | 21 |
| | | D | 586,7 | - | 321,0 | 2,764,4 | 1,278,5 | 4,010,4 | - | 35,5 | 20,1 | - | 7,2 | 116,9 | - | 339,7 | 766,1 | |
| | | I | 477,6 | | 163,8 | 2,260,0 | 530,1 | 1,180,0 | | 213,5 | 73,4 | | 5,6 | 388,6 | | 659,8 | 1,175,4 | |
| PRIMARY INPUTS | 22 Gross fixed capital consumption | | 1,009,0 | | 42,4 | 88,9 | 74,1 | 247,8 | | 14,2 | 3,9 | | 8,4 | 10,3 | | 190,3 | 79,6 | 22 |
| | 23 Compensation of employees | | - | | 120,2 | 258,0 | 130,1 | 551,6 | | 83,2 | 22,1 | | 18,1 | 76,9 | | 228,0 | 527,1 | 23 |
| | 24 Indirect taxes less subsidies | | -245,1 | | 12,9 | 1 051,1 | 417,8 | 164,8 | | 25,5 | 28,2 | | 8,2 | 89,1 | | 164,9 | 207,1 | 24 |
| | 25 Other incomes | | 38,237,7 | - | 4,4 | 3,215,3 | 1,414,2 | 148,1 | | 48,6 | 6,4 | | 2,1 | 57,8 | | 98,8 | 122,4 | 25 |
| | 26 Gross value added | | 38,981,6 | - | 179,9 | 4,615,3 | 2,036,2 | 1,112,3 | - | 171,5 | 60,6 | - | 36,6 | 234,1 | - | 682,0 | 936,2 | 26 |
| RESOURCES | 27 GROSS OUTPUT | | 40,045,9 | - | 664,7 | 9,637,7 | 3,594,8 | 6,302,7 | | 420,2 | 154,1 | - | 49,4 | 741,6 | - | 1,681,5 | 2,877,7 | 27 |
| | 28 Imports CIF | | 432,1 | - | 191,7 | 4,452,2 | 573,1 | 1,569,9 | - | 751,8 | 1,923,1 | 2,943,9 | 583,1 | 5,049,5 | - | - | - | 28 |
| | 29 Imports duties | | 64,8 | - | 24,8 | 718,3 | 373,9 | 379,7 | - | 101,0 | 514,1 | 600,5 | 32,6 | 1,099,3 | - | - | - | 29 |
| | 30 Imports, included duties | | 496,9 | - | 216,5 | 5,170,5 | 747,0 | 1,948,6 | | 852,8 | 2,437,2 | 3,544,4 | 615,7 | 6,148,8 | - | - | - | 30 |
| | 31 Statistical adjustment | | - | - | - | | | | - | - | - | - | - | | - | - | - | 31 |
| | 32 TOTAL RESOURCES | | 40,542,8 | - | 881,2 | 14,808,2 | 4,341,8 | 8,251,3 | - | 1,273,0 | 2,591,3 | 3,544,4 | 665,1 | 6,890,4 | - | 1,681,5 | 2,877,7 | 32 |

080-V868

Million CFA France — CHAD 1973 — Million de francs CFA

| | INTERMEDIATE CONSUMPTION / CONSOMMATION INTERMEDIAIRE | | | | | | FINAL USE / EMPLOIS FINALS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wholesale and retail trade / Commerce de gros et de détail | Transport and communication / Transports et communication | Public Administration / Administration publique | Other Services / Autres Services | Unallocated items and statistical adjustment / Activités mal désignées et ajustement statistique | TOTAL INTERMEDIATE CONSUMPTION / TOTAL CONSOMMATION INTERMEDIAIRE | Private Consumption / Consommation privée | Public Consumption / Consommation publique | Gross Fixed Capital Formation / Formation brute de capital fixe | Variation in stocks / Variation de stocks | Exports / Exportations | TOTAL FINAL USE / TOTAL DES EMPLOIS FINALS | Statistical Adjustment / Ajustement statistique | TOTAL USE / TOTAL DES EMPLOIS | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | | | |
| 16 | 57,6<br>57,6<br>- | 383,4<br>383,4<br>- | | 1,082,1<br>1,082,1<br>- | | 3,129,2<br>3,129,2<br>- | 11,334,2<br>11,334,2<br>- | | 415,4<br>415,4<br>- | | 4,017,6<br>4,017,6<br>- | 15,765,2<br>15,765,2<br>- | | 18,894,4<br>18,894,4<br>- | T<br>D<br>I | 16 | Commerce de gros et de détail |
| 17 | 615,1<br>615,1<br>- | 558,0<br>558,0<br>- | 632,8<br>632,8<br>- | 221,4<br>221,4<br>- | | 2,566,8<br>2,566,8<br>- | 2,040,6<br>2,040,6<br>- | | 5,7<br>5,7<br>- | | 1,753,9<br>1,753,9<br>- | 3,798,2<br>3,798,2<br>- | | 6,365,0<br>6,365,0<br>- | T<br>D<br>I | 17 | Transports et communications |
| 18 | | | | | | | | 22,134,4<br>22,134,4<br>- | | | | | | 22,134,4<br>22,134,4<br>- | T<br>D<br>I | 18 | Administrations publiques |
| 19 | 684,1<br>563,1<br>521,0 | 1,034,5<br>391,5<br>643,0 | 1,594,6<br>476,7<br>1,117,9 | 1,103,8<br>900,5<br>203,3 | | 5,760,1<br>3,057,4<br>2,702,7 | 3,362,6<br>3,475,6<br>487,0 | | | | 164,1<br>164,1<br>- | 4,126,7<br>3,639,7<br>487,0 | | 9,886,8<br>6,697,1<br>3,189,7 | T<br>D<br>I | 19 | Autres services |
| 20 | 22,0<br>-<br>22,0 | | 2,5<br>-<br>2,5 | 106,3<br>-<br>106,3 | | 161,5<br>-<br>142,3 | 122,9<br>-<br>122,9 | | | | | 122,9<br>-<br>122,9 | | 265,4<br>-<br>265,4 | T<br>D<br>I | 20 | Activités mal désignées et ajustement statistique |
| 21 | 1,693,7<br>1,194,3<br>499,4 | 3,250,9<br>1,454,9<br>1,796,0 | 6,554,8<br>3,034,1<br>3,520,7 | 4,035,2<br>3,080,5<br>954,7 | | 30,660,6<br>18,964,0<br>13,696,6 | 64,449,9<br>56,586,9<br>7,863,1 | 22,134,4<br>22,134,4<br>- | 6,617,7<br>3,381,2<br>2,636,5 | 0,9<br>134,9<br>-124,0 | 20,022,2<br>29,460,0<br>1,562,2 | 113,234,1<br>101,297,7<br>11,936,9 | | 145,894,7<br>120,261,2<br>25,633,5 | T<br>D<br>I | 21 | TOTAL DES ENTREES DE BIENS ET SERVICES |
| 22 | 511,0 | 706,0 | 59,8 | 483,5 | | 3,529,0 | | | | | | | | | | 22 | Consommation brute de capital fixe |
| 23 | 1,664,5 | 1,623,5 | 15,492,5 | 972,8 | | 21,768,7 | | | | | | | | | | 23 | Rémunération des salariés |
| 24 | 1,919,4 | 167,5 | 27,2 | 468,2 | | 4,501,8 | | | | | | | | | | 24 | Impots indirects moins subventions |
| 25 | 13,105,8 | 622,1 | - | 737,4 | | 57,801,1 | | | | | | | | | | 25 | Autres revenus |
| 26 | 17,200,7 | 3,114,1 | 15,579,6 | 2,661,9 | | 87,600,6 | | | | | | | | | | 26 | Valeur ajoutée brute |
| 27 | 18,894,4 | 6,365,0 | 22,134,4 | 6,697,1 | | 120,261,2 | | | | | | | | | | 27 | PRODUCTION BRUTE |
| 28 | | | | 3,189,7 | 165,1 | 21,634,2 | | | | | | | | | | 28 | Importations CAF |
| 29 | | | | | 100,3 | 4,009,3 | | | | | | | | | | 29 | Droits et taxes sur importations |
| 30 | | | | 3,189,7 | 265,4 | 25,633,5 | | | | | | | | | | 30 | Importations, y compris droits et taxes |
| 31 | | | | | | | | | | | | | | | | 31 | Ajustement statistique |
| 32 | 18,894,4 | 6,365,0 | 22,134,4 | 9,886,8 | 265,4 | 145,894,7 | | | | | | | | | | 32 | RESSOURCES TOTALES |

NOTE: T = Total inputs
D = Domestically produced inputs
I = Imported inputs

NOTE: T = Entrées totales
D = Entrées d'origine intérieure
I = Entrées importées

MAROC

Sources: Tableau Entrées - Sorties de l'économie marocaine pour l'année 1975, publié par la Direction de la Statistique, Sécrétariat d'Etat au Plan et au Développement Régional, 1980.

Agrégation: L'agrégation des 33 branches d'activité du tableau national initial dans les 20 branches d'activité de la CEA a été faite selon le tableau de correspondance.

| Branches d'activité de la CEA | Branches d'activité correspondantes de la classification nationale |
|---|---|
| 1 | 1 |
| 2 | 6 |
| 3 | 4.1, 4.2, 4.3, 5 |
| 4 | 10, 11 |
| 5 | 12 |
| 6 | 13, 14 |
| 7 | 15 |
| 8 | 16, 17 |
| 9 | 25, 26 |
| 10 | 7 |
| 11 | 18 |
| 12 | 19, 20, 21, 22, 23, 24 |
| 13 | 27 |
| 14 | 8 |
| 15 | 29 |
| 16 | 31 |
| 17 | 34.5, 36 |
| 18 | Services non marchands (S.N.M.) |
| 19 | 37, 38, Autres services marchands (A.S.M.) et branche fictive des institutions de credit |
| 20 | - |

Système de prix: prix d'acquisition

Système de production:
- La branche commerce n'inclut pas les droits et taxes à l'importation.
- La ligne 31 ventille les coûts de distribution pour réaliser l'équilibre ressources-emplois par produits.

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